

TABLA 5. **Requerimientos mínimos del núcleo formativo común (12 meses) para la formación en enfermedades infecciosas en EE. UU.**

Consultas de enfermedades infecciosas	Participación en al menos 250 durante el periodo de formación
Epidemiología	Comité de Infecciones o curso formal de 24 horas o curso Society for Healthcare Epidemiology of America o equivalente o rotación durante 1 mes
Microbiología	Experiencia práctica en microbiología clínica
Infecciones de transmisión sexual	Se requiere experiencia
Trasplante/inmunodeprimidos	Experiencia con trasplante de órgano sólido y trasplante de progenitores hemopoyéticos
Consultas externas	18 meses, debe haber pacientes con infección por el VIH
Conferencias	2 h semanales, incluidas sesiones clínicas de enfermedades infecciosas
VIH hospitalizado	Se requiere experiencia
Didáctica	Curso de bioética, series de conferencias

VIH: virus de la inmunodeficiencia humana.

TABLA 6. **Requerimientos ideales del núcleo formativo común (12 meses) para la formación en enfermedades infecciosas en EE. UU.**

Recomendado	
Clínica	Consultas en enfermedades infecciosas: 250 Consulta externa (con VIH) – 10% del tiempo (aproximadamente 1 día/semana) durante 24 meses; con seguimiento de 20 nuevos pacientes con VIH Microbiología (bacteriología, micología, virología, parasitología, sensibilidad a antibióticos) 1 mes/120 h Epidemiología hospitalaria: curso de 24 h (equivalente al de la Society for Healthcare Epidemiology of America) o rotación durante 1 mes
Cursos y/o clínica	Curso de infecciones de transmisión sexual de 2-3 días (equivalente al curso del CDC) Ética, bioestadística
Conferencias	2 h semanales, incluidas sesiones clínicas de, con una asistencia al menos del 60% durante los 24 meses
Adicional	
Inmunodeprimidos	Trasplante (sólido y progenitores hemopoyéticos, 20 pacientes) Otros pacientes inmunodeprimidos (20 pacientes)
No se han establecido criterios específicos	
	Medicina del viajero Control de uso de antibióticos Tratamiento antibiótico ambulatorio Gestión de riesgos Economía médica

CDC: Centers and Disease Control and Prevention; VIH: virus de la inmunodeficiencia humana.

TABLA 7. **Ruta clínica (12 meses además del núcleo común de formación) para la formación en enfermedades infecciosas en EE. UU.**

6 meses de rotaciones clínicas estructuradas
10% del tiempo en asistencia ambulatoria además de la consulta de VIH
Actividad académica que dé lugar a un artículo remitido a una revista revisada por pares o a una presentación (oral o en cartel) en un congreso nacional o regional

VIH: virus de la inmunodeficiencia humana.

ca es de 6 meses. Los 6 meses restantes se pueden dedicar a formación más estructurada (cursos) y experiencia en áreas no contempladas por el núcleo formativo común por ejemplo pediatría, epidemiología hospitalaria/control de la infección, medicina del viajero e internacional, comités de farmacia y terapéutica, supervisión de tratamiento antibiótico ambulatorio, salud laboral, estadística, sistemas de información, etc. Se recomienda además que, en el segun-

do año formativo, se adquiera un 10% más de experiencia en consultas externas además del 10% obligatorio.

Las actividades académicas constituyen un aspecto importante del entrenamiento de los *fellows* que eligen la ruta clínica. Sin embargo, dado que en esta ruta el tiempo es muy limitado, no se considera factible ni apropiado que el *fellow* comience y complete un proyecto independiente de investigación. Se considera una buena alternativa que participen como colaboradores en algún proyecto en marcha. Se considera que el *fellow* ha completado de manera satisfactoria los requerimientos académicos mediante la autoría de un artículo original publicado en una revista revisada por pares o bien mediante una comunicación (oral o en cartel) en un congreso nacional o regional, sin menoscabo de que existan otros mecanismos para demostrar la competencia académica.

#### Ruta de investigador clínico

Esta ruta exige un mínimo de 24 meses, además de los 12 meses del núcleo común de formación. Los centros que ofrecen esta ruta deben contar con un comité de formación, una de cuyas misiones es la supervisión



**TABLA 8. Ruta de investigador clínico (24-36 meses además del núcleo común de formación) para la formación en enfermedades infecciosas en EE. UU.**

Recomendado	Adicional
Comité de formación que tenga un encuentro con el <i>fellow</i> antes de iniciar el proyecto y, posteriormente, con carácter anual	Cursos en: Diseño experimental Métodos analíticos Estadística Escritura de becas y artículos
Escritura y presentación de una memoria al final de la formación	

**TABLA 9. Ruta de investigador básico (24-36 meses además del núcleo común de formación) para la formación en enfermedades infecciosas en EE. UU.**

Recomendado	Adicional
Comité de formación que tenga un encuentro con el <i>fellow</i> antes de iniciar el proyecto y, posteriormente, con carácter anual	Cursos en: Biología molecular Genética Biología celular Escritura de becas y artículos
Escritura y presentación de una memoria al final de la formación	

del *fellow* durante su proceso formativo. Ese comité tiene además que emitir un informe formal al final de la formación (tabla 8). El comité de formación debe reunirse con el *fellow* antes de iniciar el proyecto de investigación y al menos una vez al año, posteriormente. Tras cada reunión se le hace entrega al *fellow* de un informe por escrito resumiendo las conclusiones y recomendaciones. Al final de la formación, el *fellow* debe hacer una presentación formal a un grupo compuesto por el comité de formación y otros miembros de la universidad o la comunidad académica.

#### Ruta de investigador básico

Los requerimientos para la ruta de investigador básico (tabla 9) son similares a los de la ruta de investigador clínico. Además del requerimiento de un comité de formación y de una defensa formal al final del período de formación, se considera importante la formación en biología molecular, biología celular y/o genética. La prueba final de una formación exitosa, tanto en la ruta de investigador clínico como en la ruta de investigador básico, es la capacidad del *fellow* de escribir y publicar artículos, así como de elaborar proyectos y conseguir becas de investigación de forma independiente.

#### La actividad infectológica en los hospitales de EE. UU.

En EE. UU., la existencia de divisiones de enfermedades infecciosas en los hospitales terciarios y universitarios es generalizada. En estas divisiones se realizan las tareas asistenciales, docentes y de investigación en la materia. En general, la cartera de servicios de estas divisiones incluye todas las actividades incluidas en las realiza-

das en los hospitales europeos (tabla 4), con algunas particularidades.

Además de los aspectos puramente asistenciales directos (ya sea mediante la atención a pacientes asignados o mediante consultoría), dos de las actividades más relevantes que desarrollan los infectólogos en EE. UU. están relacionadas con la infección nosocomial y el uso de antimicrobianos. La mayoría de los epidemiólogos hospitalarios en EE. UU. son infectólogos y, por tanto, lideran la realización de las tareas de vigilancia y control de la infección nosocomial en sus centros<sup>9</sup>, bien formando parte de las divisiones de enfermedades infecciosas o de las de epidemiología hospitalaria. Además, las actividades relacionadas con el uso de antimicrobianos son también habituales, de manera que lideran los programas para la mejora del uso de antimicrobianos<sup>10</sup>. En la mayoría de centros existe el llamado *antibiotic beeper* o buscapersonas para antibióticos, dado que se requiere la aprobación expresa y en el momento por parte del infectólogo para el uso de antimicrobianos restringidos. En muchos hospitales, las subespecialidades médicas no cuentan con camas "propias" (de hecho, el concepto de "propiedad" sobre las camas es muy diferente del que existe en los hospitales españoles), ya que la mayoría depende de los departamentos de medicina, que tienen un concepto integrador de todas las especialidades, y son llevadas directamente por los llamados médicos generalistas, y que cuentan de manera habitual con los especialistas como consultores para el manejo de los pacientes.

#### Sociedades y revistas científicas

La Infectious Diseases Society of America (IDSA), fundada en 1964, es la sociedad científica que agrupa a los infectólogos en EE. UU. Esta sociedad desarrolla una intensa actividad formativa, organiza un congreso anualmente y elabora unas prestigiosas guías de práctica clínica que están disponibles de manera gratuita en su página web ([www.idsociety.org](http://www.idsociety.org)). Esta sociedad publica dos revistas quincenales, *Journal of Infectious Diseases* (revista fundada en 1904, que en 1969 pasó a ser publicación oficial de la IDSA, y de orientación más básica) y *Clinical Infectious Diseases* (heredera de la anterior *Reviews of Infectious Diseases*, fundada en 1979), de orientación clínica y con un factor de impacto en 2006 de 6,750. Además, existe una sociedad que agrupa a los epidemiólogos hospitalarios denominada Society for Healthcare Epidemiology of America (SHEA; [www.shea-online.org](http://www.shea-online.org)), que también realiza actividades formativas, un congreso anual y guías referidas principalmente a aspectos relacionados con el control de la infección nosocomial. Publica mensualmente la revista *Infection Control and Hospital Epidemiology* (factor de impacto de 2,989).

#### La infectología en Canadá

La especialidad de enfermedades infecciosas fue aprobada en Canadá en 1997, y los requerimientos se revisaron en 2007. El título, al igual que el resto de las especialidades, es emitido por el Royal College of Physicians and Surgeons of Canadá. Para acceder a la especialidad se debe obtener previamente la certificación en medicina interna o pediatría en función de si la especialidad se quiere de-



sarrollar en el adulto o en el niño. Esta certificación, en el caso de medicina interna, es una residencia de 4 años. A ello le siguen dos años de residencia, con programa específico, aprobado para enfermedades infecciosas<sup>11,12</sup>. Si bien inicialmente el programa debería durar 6 años, parece que puede reducirse a 5 años pues de los 2 años de especialidad propiamente dicha en enfermedades infecciosas, uno puede realizarse en el primer ciclo de medicina interna. Esta formación lleva incorporado el principio de responsabilidad creciente. El período específico de enfermedades infecciosas debe incluir un año de residencia clínica en el espectro de infecciones agudas, crónicas y recurrentes en pacientes tanto hospitalizados como ambulatorios, procurando que exista la oportunidad de participar en estudios epidemiológicos de enfermedades infecciosas tanto en el hospital como en la comunidad; 6 meses de dedicación a tiempo total realizando residencia en laboratorio de microbiología, que incluya virología, bacteriología, micología y parasitología, y 6 meses dedicados bien al desarrollo de aspectos de cualquiera de las secciones previas o realización de una estancia en Canadá o en el extranjero, o bien la realización de aspectos de investigación en el hospital o la universidad.

Estos aspectos son considerados mínimos para poder presentarse a los exámenes en enfermedades infecciosas, que constan de dos apartados de un total de 3 h de duración y que por ejemplo este año 2008 se celebran en el mes de mayo en 6 ciudades canadienses, en el mismo día y hora. El examen consta de dos partes: preguntas con respuesta corta sobre principios y práctica de enfermedades infecciosas, problemas de manejo del paciente, basado en casos clínicos. Tras la aprobación de éste se expide el título de especialista.

## La infectología en Centroamérica y Sudamérica

El reconocimiento de la especialidad existe en todos los países, con la excepción de Bolivia, Guatemala, El Salvador y Cuba. En general, son títulos expedidos por los colegios oficiales de médicos, aunque las formas son muy diversas. Como ejemplo, haremos referencia a dos países, Argentina y Uruguay.

### Argentina

La especialidad está reconocida desde principios de 1980. Existen infectólogos en todos los hospitales, con un número aproximado de uno por cada 100 camas de hospitalización (J. Bermejo, comunicación personal). En cada provincia de Argentina, por mandato constitucional, los colegios de médicos se reservan la potestad de otorgar "habilitaciones" para las especialidades médicas. Por ende, esos mismos colegios reglamentan y supervisan la formación de especialistas.

Aunque cada vez existe una mayor tendencia a unificar criterios en el país para un título común<sup>13</sup>, en cada provincia los requisitos pueden ser diferentes. Si tomamos como ejemplo la provincia de Santa Fe, la actuación es como sigue. Para acceder a la especialidad, sólo hay sistema de concurrencia (lo que significa una modalidad de formación a tiempo parcial, sin remuneración económica) en centros que el mismo colegio de médicos habilita como "formadores". Los profesionales que aspiran a la especialidad deben

tener al menos 2 años completos de residencia en medicina interna o pediatría. Luego completan 3 años de formación en un centro habilitado y tras ese período están en condiciones de presentar sus antecedentes y a examinarse (examen que realiza el mismo colegio de médicos) para especialistas en infectología. Además se requiere la realización de cursos sobre medicina basada en la evidencia, Epi-Info, antimicrobianos y epidemiología, y la asistencia a un congreso o simposio.

### Uruguay

Uruguay es un país pequeño, con 3,5 millones de habitantes aproximadamente. Hasta hace 2 años había sólo una Facultad de Medicina, en la Universidad de la República. Las diversas especialidades también se realizan en la misma facultad. El título de la especialidad se logra de dos formas: *a*) para las especialidades quirúrgicas (cirugía general, traumatología, urología, etc.), el acceso es exclusivamente mediante la realización de una residencia, que dura entre 3 y 5 años, al cabo de los cuales el residente sale con la formación necesaria para ejercer la especialidad y se requiere que apruebe un examen final junto con otros requisitos (presentación de monografía y otros trabajos previos); *b*) para el resto de las especialidades existe para algunas un sistema de residencia similar al anterior y para otras existe un curso de posgrado, impartido por la cátedra de la especialidad correspondiente. Para algunas especialidades, existen las dos formas (residencia y curso de posgrado).

Al curso de posgrado se accede también por un concurso, que consiste en un examen de ingreso, generalmente con un número limitado de vacantes.

Específicamente, para la especialidad de enfermedades infecciosas hasta ahora el sistema fue el de curso de posgrado; existen 6 plazas anuales. El curso dura 3 años y lo imparte la cátedra de enfermedades infecciosas de la facultad de medicina<sup>14</sup>. Se incluyen cursos en las cátedras de epidemiología y salud pública, microbiología clínica, etc. No hay requisito previo más que el título de médico (formación de grado) y acceder a una de las vacantes; se puede concursar hasta 3 veces. Hasta ahora, una parte importante de los especialistas ha tenido una formación previa en otras especialidades (fundamentalmente medicina interna o medicina intensiva) y la especialidad en enfermedades infecciosas es su segunda especialidad.

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### Declaración de conflicto de intereses

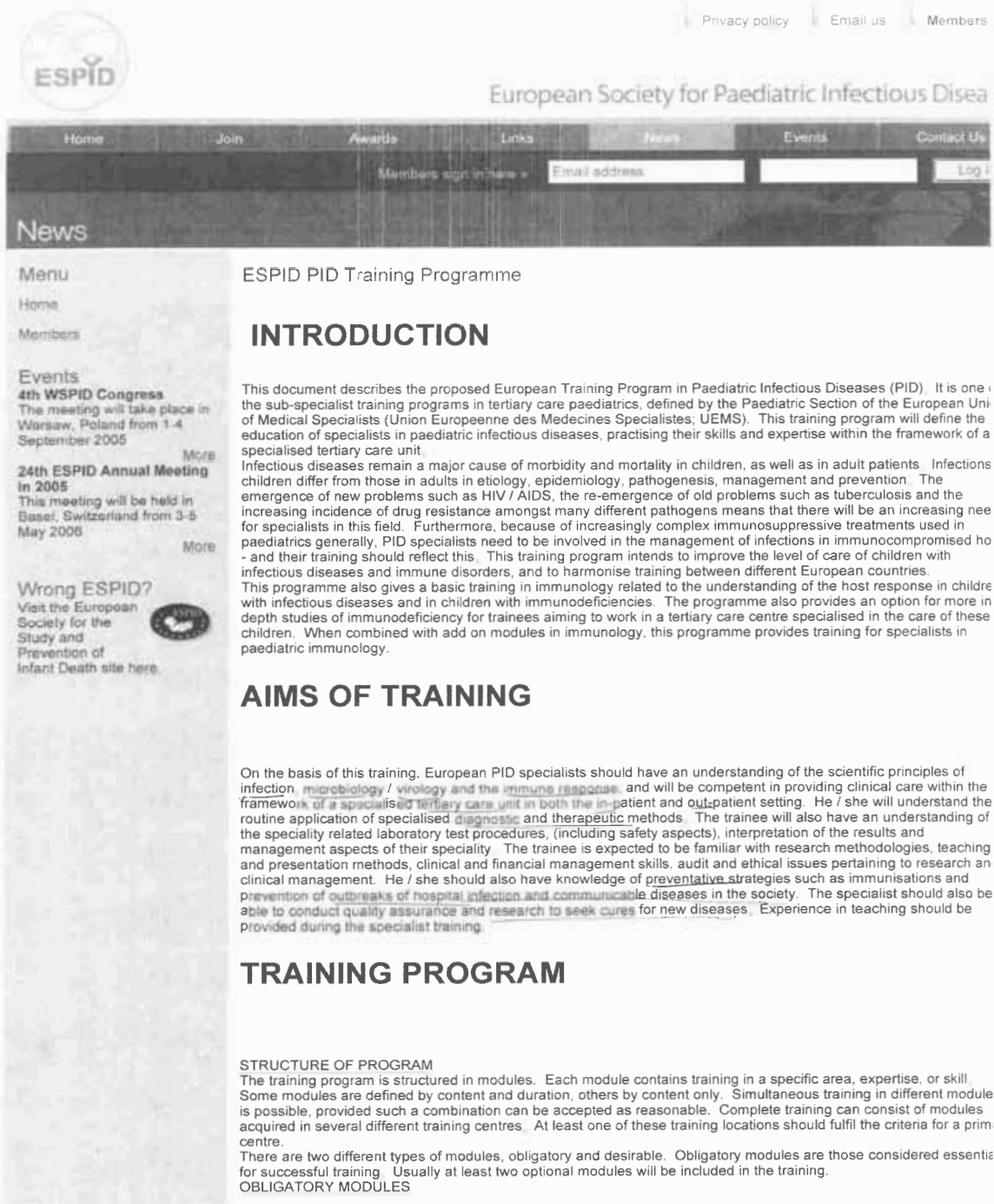
Los autores han declarado no tener ningún conflicto de intereses.



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The screenshot shows the ESPID website interface. At the top, there is a navigation bar with links for Home, Join, Awards, Links, News, Events, and Contact Us. Below this is a search bar for members and a login field. The main content area is titled 'News' and features a sidebar on the left with a 'Menu' (Home, Members), 'Events' (4th WSPID Congress, 24th ESPID Annual Meeting), and a 'Wrong ESPID?' link. The main article is titled 'ESPID PID Training Programme' and includes sections for 'INTRODUCTION', 'AIMS OF TRAINING', and 'TRAINING PROGRAM'. The 'STRUCTURE OF PROGRAM' section details the modular nature of the training, distinguishing between obligatory and desirable modules.



## MODULE HB HOSPITAL BASED MANAGEMENT OF PAEDIATRIC INFECTIOUS DISEASES PATIENTS

The trainee should acquire experience in the management of all hospitalised infants, children and adolescents with acute and chronic infectious diseases. Full time assignment of the trainee, who is to be employed in a position of responsibility is required. The ward or wards in which training takes place must be under the direct medical supervision of the tutor. They will have spent a significant period of time training in a major referral centre, and will also see children with common infection problems (e.g. respiratory tract and gastrointestinal infections).

This module should provide training and understanding in the following basic topics:-

1. Classification of infectious agents
2. Development of immune system - normal and abnormal.
3. Function of the specific and non specific immune systems.
4. Mechanisms of host resistance, notably the basis of immunological responses to microbial infections
5. Pathogenesis of infection and infectious injury, including bacterial (especially septicaemia, septic shock and to shock syndromes), viral (including post viral complications, e.g. encephalomyelitis), fungal, protozoal and helminthic diseases.
6. Epidemiology of major infectious diseases.
7. Mechanisms of host defence in infectious diseases and the immunological basis of pathogen induced damage
8. Use of antimicrobials both therapeutically and prophylactically. Interpretation of sensitivity tests (including minimum inhibitory and bacteriocidal tests). Pharmacokinetics of antimicrobials. Hospital antibiotic policy.
9. Use of immunomodulating agents, immunoglobulins, cytokines, growth factors and immunosuppressive drugs including corticosteroids.
10. Immunisations, comprehensive knowledge of all active and passive immunisations.

The following areas of knowledge, clinical skills and technical skills should then be developed:-

## Module HB : Knowledge of Infectious Diseases

- Microbial and virological classification, especially an understanding of virulence factors, culture requirements and inherent drug resistance.
- Epidemiology of common disorders such as viral exanthems, respiratory and gastrointestinal infections, invasive bacterial diseases and less common disorders of world-wide importance, e.g. H.I.V., malaria, typhoid, dysentery, hepatitis B, poliomyelitis, tetanus, diphtheria, tuberculosis, zoonotic infection.
- Infection control.

- Hospital - preventing of nosocomial infections, e.g. M.R.S.A., handling of bio-hazardous specimens.

- Community - notification programmes, disease surveillance, preventative measures, contact tracing, outbreak control.
- Advice for foreign travel, local and global importance of vaccination programmes, new developments in vaccinology.

- Infections in the newborn, including materno foetal spread of infectious agents
- Knowledge of important tropical diseases and emerging infections world-wide
- Notification programmes, disease surveillance, and laws important for the practice of P.I.D.
- Quality assurance and cost containment in clinical paediatric infectious disease practice
- Ethical, social and psychological issues, relevant for children and families with infectious disease.
- Knowledge of serological response to infectious disease.

## Module PID : Clinical Skills In Infectious Diseases

- Focal infections, upper and lower respiratory tract infections, gastrointestinal infections, meningitis, hepatitis, urinary tract infections, skin and soft tissue infections, bone and joint infections, eye infections, diagnosis and prevention in treatment of congenital infection.

- Recognition and management of a child and family affected by H.I.V. / AIDS; investigation and management of fever of unknown origin, appreciation and approach to the presentation of infection in the immunocompromised child; diagnosis and management of such problems, including gram negative septicaemia, severe infection with herpes group viruses and invasive fungal disease, disseminated atypical mycobacterial disease and pneumocystis carini pneumonia.

- Diagnosis and management of tuberculosis and atypical mycobacterial disease
- Recognition and management of sexually transmitted diseases
- Parasitic diseases in diagnosis and management, e.g. toxoplasma toxocara.
- Imported disease (not included above including malaria, leishmaniasis, diagnosis and management
- Understanding of less common but important diseases such as tetanus, diphtheria and rabies
- Management of Kawasaki disease and other vasculitic diseases, possibly associated with infection.
- Infection in the intensive care unit patients.
- Principles of post exposure prophylaxis in infectious diseases.

## Module PID : Technical Skills In Infectious Diseases

- Central venous catheter care.
- Safe and correct taking (or obtaining) and handling of specimens for routine and special investigations.
- Obtaining CSF by lumbar puncture
- Familiarity with the full range of tests relevant to the diagnosis and management of infectious diseases.

(Duration of 18-24 months)

**OTHER OBLIGATORY MODULES**

## 3) MODULE MI : CLINICAL MICROBIOLOGY AND IMMUNE DISORDERS

Work in a clinical microbiological and / or immune disorders laboratory is needed for gaining experience in the identification of infectious agents, and the delineation of immunopathological abnormalities. The knowledge of the sensitivity, specificity's and potential interpretation, pitfalls and techniques should be gained. This module can also be



used to gain clinical experience in the management of patients with immunodeficiency disorders. The proportion of time spent in a microbiological / virological laboratory or immune disorders laboratory or primary immunodeficiency service can vary depending on the training required. Time training in immunopathology and / or primary immunodeficiency can be counted towards the "bolt on" module in paediatric immunology (Required duration of 2 to 12 months).

#### 4) MODULE RE : RESEARCH EXPERIENCE

Under expert supervision, the trainee learns to plan, conduct, evaluate and publish research projects. In addition, she/he gains practical experience in presenting skills to an international audience in the form of oral or poster presentation. Required one first authored research publication in the field of PID in an international, peer-reviewed journal or 6 months experience in a research laboratory.

#### 5) MODULE TE : TEACHING EXPERIENCE

The trainee learns to structure, prepare and present lectures to different target audiences. This training includes bedside teaching and preparation of teaching material. Required minimum : teaching experience with medical students and at least one oral presentation at least at the national level.

#### DESIRABLE MODULES

#### 6) MODULE AP : AMBULATORY PAEDIATRICS

In certain centres without a primary referral area, the hospital based module will not be able to provide the trainee with enough experience in common infections. These trainees will need training in taking care of out-patients with common infections (Required duration of 1 to 6 months).

#### 7) MODULE E : EPIDEMIOLOGY

This work will provide experience in recognising epidemics of infectious diseases in the community, of public health investigation and control of these outbreaks. Knowledge in statistical methods should also be given here. (Required duration of 1 to 6 months).

#### 8) MODULE TM : TROPICAL MEDICINE

Tropical medicine could be undertaken as national or international courses, or as work in developing countries. With courses shorter than one month, the training director can accept it as fulfilling the criteria for a desirable module. (Required duration of 1 to 6 months).

#### 9) MODULE AID : ADULT INFECTIOUS DISEASES

Adult infectious diseases experience gives the trainee important insights into parts of the fields of infectious diseases and opportunities to develop contacts with colleagues working with similar problems as the PID doctor. (Required duration of 1 to 6 months).

#### 10) MODULE OS : OTHER SPECIALITIES - such as pulmonology, gastroenterology, oncology and intensive care

In several paediatric and adult sub-specialities, problems of infection and immunity are very common. This is especially true in specialities where children are immunosuppressed as part of their treatment. Training in these specialities will be of benefit to the PID specialist. (Required duration of 1 to 6 months).

## DURATION OF TRAINING



Complete training in PID has a minimum duration of three years after basic specialist training in paediatrics has been completed. It is recognised that flexibility will be of major importance to the training, particularly around the modular attachments to laboratories and the secondments to other sub-specialist areas.

## MONITORING OF TRAINING

Each trainee's progress is monitored by the training director in the primary training centre, the tutor if the trainee is working outside of the primary centre, and the trainee her / himself. The trainee maintains a personal logbook (portfolio), where she / he documents relevant training experiences. This logbook and the trainee's progress through various training modules is discussed with the tutor(s) in monthly intervals. Successful completion of a training module is certified by the tutor. This certificate should be detailed, state duration of module, describe acquired knowledge and skill, accurately quantify extent of theoretical and practical experience accumulated by the trainee.

## THE TRAINEE

Obligatory prerequisites for entering the training program in PID are: completed training in elementary paediatrics; i.e. common trunk (three years), as accepted by CESP.

## TRAINING CENTRES / TUTORS

Several institutions, located in close proximity, might combine into one training centre. In such case, one qualified individual must be designated as training centre director who represents this centre to the outside and carries the entire responsibility for the offered program. Under normal circumstances two qualified specialists in PID are required in each training centre, otherwise training for one year in another centre is required.

## PRIMARY TRAINING CENTRE

The primary training centres are highly specialised tertiary care centres for PID that can offer a complete training. They are defined by the availability of all obligatory modules. These centres will be the basis and organisers of full training for the individual trainee. Regular active clinical and research collaboration with clinical microbiological, virological and pathological laboratories are required.

A primary training centre must at the same institution provide care in the following related disciplines: allergy-immune disorders, paediatric cardiology, paediatric intensive care, dermatology, paediatric gastroenterology, genetics, paediatric haematology-oncology, microbiology, neonatology, paediatric nephrology, paediatric neurology, pathology, paediatric pulmonology, paediatric radiology and paediatric surgery. If some of these specialties, are lacking the training program can be undertaken in collaboration with another centre.

## TUTORS / TEACHERS

### Paediatric Infectious Diseases Training Director

A PID training director is a tutor (vide infra) and the head of a primary training centre. He / she is responsible for the whole training program for the individual.

A training director is either a certified PID specialist or in a country where such a program has not been running, a person with at least five years of broad-based practice experience in clinical PID, teaching and research. Such a person must have spent a minimum of 50% full time professional activity in the practice of PID to receive credit.

### PID Tutor





A tutor is responsible for a specific part of the training program in close collaboration with the training director.

## ACCREDITATIONS

For each country of EU, a list of primary training centres and training directors is compiled and updated on an annual basis. One training director in each country should be responsible for updating this information. Accreditation is given by the European Board of Paediatrics. In case of uncertainty or controversy, a centre visit of a nominated delegation of the Committee has to be arranged. In general, visitation of training centres should follow the rules as outlined in the relevant UEMS charter (presently a draft).

### NATIONAL TRAINING PROGRAMS

#### EU Countries With Existing Programs

National training programs in PID that already exist, or are in an advanced stage of development at the time when this European program is implemented, should be considered as compatible when they:-

- have a content that is comparable (not strictly identical) with the European program;
- have a duration that does not differ by more than plus / minus one year from the European program.

#### EU Countries Without Existing Programs

National professional medical bodies should be encouraged to adopt a national training program in PID and to structure it in close compatibility with this European program.

Until implementation of such a national training program, persons with well documented experience in PID could be certified as training directors as specified in 19.1. Motivated individuals should have the opportunity to train according to this European program and to document their obtained qualification in a relevant board examination on a voluntary basis. The instruments to monitor such training and to entertain a final examination are again the European Board of Paediatrics.

#### Non EU Countries With Existing Programs

If the existing national programs found to be compatible with the European program (based on the same criteria as listed under 21.1), a trainee, after successful completion of the national program, should also be entitled to hold the title of 'European Paediatric Infectious Diseases / Immune Disorders Specialist'.

#### Non EU Countries Without Existing Programs

On a voluntary basis, the same arrangements as listed under 21.2 should apply to this situation.

## EXAMINATIONS

### Current Situation

National examination in countries with a compatible national training program are accredited for the European qualification; however, it is recognised that some countries do not have an exit qualification granted by examination, but rather by completion of supervised training program. Trainees from these countries who have successfully passed the training program will be accepted as PID specialists.

### Future

As soon as possible, the European Board of Paediatrics should approve training directors in PID / PI in every EU country. These directors should then organise the PID / PI training and examination at national level.

In the long run, an examination at European level may be organised. Successful passing of the training program is documented by a European Board Certificate.

Ref: A.J.C / GR / European Training Document Infectious Diseases, September 2003  
(10 September 2003)



## ANEXO E9-3

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### EVALUACIÓN DE LOS SERVICIOS DE ENFERMEDADES INFECCIOSAS PEDIÁTRICAS

#### Nombre del Hospital y datos de filiación:

- Persona de contacto (tel., correo electrónico):

¿Existe Unidad de Infecciosas reconocida en el centro? Sí/no.

¿Existe una actividad concreta de infecciosas aunque no haya unidad? Sí/no.

Número de facultativos disponibles para esta actividad:

- Formación: licenciado, doctorado, profesorado universidad.
- ¿Cuántos años de experiencia profesional tienen?
- Cuántos años de ellos dedicados principalmente a infecciosas.
- Especialización dentro de infecciosas (inmunodeficiencias, infecciosas general...).

Cartera de Servicios de la Unidad:

Interconsultas/nosocomial (poner sí/no y n.º aproximado al año):

- Cirugías:
  - General.
  - Cardíaca.
- Médicas pediátricas (Digestivo...).
- Oncología.
- UCIP.
- Neonatos.
- Trasplante médula ósea.

- Trasplante órgano sólido (TOS, TPH, UCIP,UCI neonatal): sí/no.
- VIH: sí/no.
- Inmunodeficiencias 1ª.
- Patología importada/tropicales.

Hospitalización: sí/no (camas llevadas directamente o compartidas):

- Control de infección nosocomial: sí/no.
- Consulta externa (especificar tipo y n.º pacientes/año).

Otras capacidades de la Unidad (poner sí/no y si existen especificar brevemente):

- Investigación: estudios en curso.
- Cursos de Infectología Pediátrica.
- Máster de Infectología Pediátrica.
- Sesiones del servicio: n.º y tipo.
- Sesiones con otras Unidades: especificar.
- Posibilidad de rotación por Microbiología.
- Posibilidad de rotación por Preventiva.
- Posibilidad de rotación por Infectología de adultos.
- Posibilidad de rotación por Tropicales.

Programa de formación de la Unidad (escrito): de obligado cumplimiento.

¿Existe un tutor/es?

¿Existe una biblioteca con posibilidad de acceder a artículos de Pediatría?



## ANEXO E9-4

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### 1. Programa de formación

12 meses (11 + 1 de vacaciones) a completar en el R4 o tras la residencia si no se puede hacer en el último año por motivos de rotación de cada servicio.

En un futuro se planteará una rotación extra de un año (pendiente de conseguir presupuesto, apoyos industrias, becas y ver funcionamiento del programa inicial).

La rotación debería incluir:

- 3-4 meses en hospitalización con periféricos e interconsulta.
- 3-4 meses de consulta externa (uno al menos de inmunodeprimidos).
- 1 mes en Microbiología.
- 1-2 meses infecciosas de adultos.
- 2 meses de tropicales y manejo del niño viajero.

Total: 11 meses + 1 mes de vacaciones reglamentarias.

Los residentes que en su centro no puedan hacerlo todo en el R4, lo pueden completar en el siguiente rotando por los centros requeridos.

### 2. Másteres

En la página web de SEIP ya está colgado el Máster de Patología Infecciosa Pediátrica, impartido en el Hospital Vall'd Hebron, y avalado por la SEIP, que se encuentra en su tercera edición (consultar web).

También se ha solicitado un Magíster de Infectología en Madrid a través de la Universidad Complutense, con fecha de inicio en junio de 2011.

Se planteará en el futuro de otros máster *on line* que podrán ser avalados por SEIP si cumplen los requisitos necesarios.

### 3. Acreditación de centros y Unidades Docentes

Se acreditarán centros que cuenten con las características descritas en el documento elaborados para ello y que cumplan las directrices de SEIMC.

Dado que no todos los hospitales van a cumplir los requisitos de camas, n.º de consultas, etc., se considerarán como módulo parcial para hospitalización y consulta (válido como tres meses) aquellos sitios que, no cumpliendo el requisito numérico o de especialización y servicios, sí tienen una parte dedicada a infecciosas y cuentan con un tutor o especialista en infecciosas con competencia demostrada y avalada por SEIP para formar al residente y que lo tutele.

#### 3.1 Características del Centro Hospitalario

El centro hospitalario en el que se ubica la unidad docente debe ser un hospital general acreditado para la docencia médica de posgrado (sistema MIR) por el Consejo Nacional de Especialidades Médicas.

El hospital debería disponer de los servicios necesarios para proporcionar a todos los residentes la oportunidad de alcanzar los objetivos educativos y de formación en Infectología pediátrica. En este sentido, deberá disponer de una unidad, sección o servicio de enfermedades infecciosas pediátricas acreditado para la docencia de postgrado (sistema MIR), así como con Servicios de Microbiología, Medicina Preventiva, Inmunología, Medicina Interna o enfermedades infecciosas de adultos, Urgencias, Hematología pediátrica (preferiblemente con un programa de trasplante de médula ósea), Neonatología, Cuidados Intensivos pediátricos y neonatales y Cirugía infantil (preferiblemente con un programa de trasplante de órgano sólido).

En el caso de que un centro dispusiera de suficientes recursos para proporcionar formación en enfermedades infecciosas, pero careciera de alguno de estos servicios esenciales, la Unidad Docente podría acreditarse siempre que se garantizase, mediante un acuerdo escrito con otra Unidad Docente en enfermedades infecciosas, la posibilidad de enviar residentes para periodos de rotación de duración adecuada en la correspondiente área deficitaria.

El centro dispondrá del acceso a una biblioteca central suficientemente dotada de textos y monografías sobre enfermedades infecciosas, Medicina Interna y Microbiología, y acceso a sistemas de búsqueda informatizados.

#### 3.2 Características de la Unidad Docente

La Unidad Docente debe contar con un programa escrito específico de formación para el médico interno residente de la especialidad, que incluya periodos específicos de formación en Microbiología, área de hospitalización, interconsultas, consultas externas generales y consultas externas de enfermedades importadas, VIH pediátrico e inmunodeficiencias primarias.

La unidad dispondrá de al menos dos médicos adjuntos con dedicación exclusiva a la Infectología pediátrica y con espacios físicos independientes dentro de la estructura del centro hospitalario.

En concreto, se establecen como imprescindibles la disponibilidad de una sala de hospitalización propia, con un mínimo de 5-10 camas propias o compartidas como consultoría y un área de consultas externas. El médico residente dispondrá de espacio físico que le permita independencia suficiente para el estudio y el trabajo personal. La Unidad Docente dispondrá de un equipamiento adecuado para el desarrollo de la actividad asistencial en enfermedades infecciosas. La Unidad Docente debe disponer de medios suficientes para la docencia como equipamiento para realizar presentaciones en público, ordenadores personales con conexión a Internet y acceso a bibliotecas electrónicas.



### 3.3 Organización y gestión de la unidad docente

El futuro especialista en enfermedades infecciosas debe integrarse en una Unidad Docente, no solamente capacitada para transmitir conocimientos, habilidades y actitudes, sino que además ofrezca una organización suficiente que le garanticen una estabilidad y planificación del trabajo durante su periodo de formación.

La Unidad Docente debe acreditar una actividad asistencial suficiente para garantizar una experiencia adecuada al residente durante su formación. A modo orientativo, sugerimos los parámetros mínimos de actividad de una Unidad Docente en enfermedades infecciosas. En el área de hospitalización: 200-300 ingresos al año; área de interconsultas: 50-100 o más pacientes al año; consultas externas específicas de enfermedades infecciosas: 200 pacientes nuevos al año, y pacientes con infección por el VIH: al menos 20 pacientes en seguimiento activo.

La Unidad Docente debe garantizar un programa de actividades docentes periódicas que incluirá como mínimo dos sesiones docentes semanales, incluyendo clínicas, bibliográficas y monográficas periódicas. El residente debe participar activamente en esas sesiones, parte de las cuales deben estar adaptadas a sus necesidades de formación. La Unidad Docente debe asegurar la disponibilidad de tiempo y recursos suficientes para que el residente y los propios médicos de plantilla acudan a cursos, reuniones y congresos de nivel y solvencia reconocidos. El residente en formación deberá poder desarrollar habilidades y recursos para ser capaz, no solo de interpretar correctamente la investigación biomédica, sino también de llevar a cabo trabajos de investigación por sí mismo. Al final del año, el residente debe haber publicado algún trabajo en una revista o haber iniciado la tesis. Por tanto, es imprescindible que esté definida, al menos, una línea de investigación estable en la Unidad Docente, y que la unidad organice como mínimo un curso o máster de Infectología pediátrica al año.

La presencia de un tutor responsable en cada centro es imprescindible. El tutor deberá evaluar al residente, organizar las rotaciones y la docencia y valorar el desarrollo del programa (dificultades, mejoras a realizar...).

En la página web de la Sociedad se harán constar los responsables y la ficha de evaluación de cada centro.

El Comité de Formación examinará anualmente como ha ido la formación en cada centro mediante la memoria aportada por el médico residente.

Para la acreditación se publicará en la web un documento a cumplimentar por las unidades que deseen ser acreditadas (Anexo 3) y se valorarán las características de cada centro por el Comité. En este punto se será estricto y no se acreditarán centros que no cumplan los requisitos. La Junta dará el último visto bueno a la decisión del comité.

### 4. Rotación en el extranjero y colaboración con países en vías de desarrollo

Pendiente de inicio una beca para rotar en centros de estas características. Se publicará en la web y se mediante currículum se aceptarán a los posibles rotantes.

Se recogerán centros para rotar en el extranjero con las diferentes especialidades de cada sitio y se reevaluarán en función de los datos y opiniones que vayan aportando por los diferentes rotantes.

1. Se considerará rotación válida para la formación en infecciosas, si esta se realiza en un centro acreditado siguiendo nuestras propias recomendaciones, bien en Infecciosas en general o en un campo en concreto (por ejemplo, trasplante, tropicales, etc.).
2. En caso de que sea una actividad de colaboración con países en vías de desarrollo se tendrá en cuenta para la acreditación en Infecciosas, pero no para la formación, si el centro no cuenta con personal docente, patología infecciosa suficiente, etc.



## ANEXO E9-5

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### Estructura del programa

Este programa está estructurado en módulos. Cada módulo precisa una serie de conocimientos básicos y específicos, así como una duración recomendada para su mejor adecuación. Esa duración dependerá sobre todo del tiempo total disponible para la subespecialización. Habitualmente es de un año (práctica habitual en España, donde los residentes suelen disponer del último año de residencia para la rotación libre). Pero si es posible prolongar la estancia hospitalaria (por ejemplo, becas, etc.), la duración del programa y sus módulos podrá alargarse.

Se incluyen al final una serie de técnicas recomendables que deben ser realizadas y dominadas sin problemas por el interesado, así como otras opcionales.

### MÓDULOS ESENCIALES (OBLIGATORIOS)

#### MÓDULO 1. Manejo hospitalario de las enfermedades infecciosas en Pediatría

Se incluyen tanto la patología infecciosa que precisa ingreso en Planta de Hospitalización o en una Unidad de Cuidados Intensivos Pediátricos. Además, se deben dominar aquellas patologías infecciosas crónicas que requieren seguimiento continuado en la Consulta Externa de Infectología e Inmunodeficiencias.

#### 1. Conocimiento de las Enfermedades Infecciosas

##### 1.1 Síndromes clínicos y formas principales

###### *de presentación de las enfermedades infecciosas*

- Infecciones respiratorias de tracto superior (por ejemplo, otitis media aguda, faringoamigdalitis) e inferior (por ejemplo, bronquiolitis, neumonía, empiema pleural). Síndrome pertusoides.
- Infecciones gastrointestinales.
- Infecciones del sistema nervioso central (por ejemplo, meningitis, encefalitis).
- Infecciones urinarias (por ejemplo, pielonefritis).
- Infecciones osteoarticulares.
- Enfermedades exantemáticas.
- Manejo diagnóstico protocolizado de la fiebre de origen desconocido.
- Infecciones específicas en el neonato (por ejemplo, recién nacidos con alto riesgo infeccioso, sepsis-meningitis neonatal, enterocolitis necrotizante).
- Infecciones congénitas (infecciones del grupo TORCH).
- Principales infecciones en el niño inmigrante. Infecciones tropicales.
- Infecciones en el niño inmunodeprimido.
- Enfermedades de transmisión sexual.
- Infecciones asociadas a catéter venoso central.
- Infecciones de válvula de derivación ventrículo-peritoneal y de drenaje ventricular externo.
- Manejo de las principales escalas o *scores* clínicos potencialmente utilizables en diferentes patologías in-

fecciosas: escala de Glasgow (infecciones intracraneales), *score* de Boyer (meningitis), escala de Yale y escala de Rochester (fiebre sin foco), *score* de Taussig-Westley (laringitis) *score* de Wood-Downes (bronquiolitis).

##### 1.2 Agentes etiológicos de las enfermedades infecciosas.

###### *Microbiología básica y enfermedades infecciosas asociadas*

- Infecciones bacterianas, incluyendo infecciones por micobacterias.
- Infecciones víricas. Especial atención a la infección por VIH.
- Infecciones fúngicas.
- Infecciones por parásitos.

##### 1.3 Inmunodeprimidos

- Inmunodeficiencias primarias (congénitas): clasificación, formas principales de presentación, manejo diagnóstico y terapéutico.
- Inmunodeficiencias secundarias (excepto VIH): niños oncológicos, trasplantados, enfermedades reumáticas bajo tratamiento inmunosupresor. Manejo de la fiebre en el niño neutropénico o con tratamiento inmunosupresor. Vacunaciones en el niño inmunodeprimido.
- Infección por VIH. Manejo diagnóstico y terapéutico. Seguimiento protocolizado. Antirretrovirales utilizados en niños infectados. Seguimiento de los efectos adversos por antirretrovirales. Ensayos clínicos relacionados con la infección VIH.

##### 1.4 Pruebas complementarias

- Interpretación de analíticas de sangre y orina básicas y específicas.
- Interpretación de analíticas de otros líquidos corporales: líquido cefalorraquídeo, líquido peritoneal, líquido articular, líquido pleural, líquido pericárdico, lavado broncoalveolar.
- Valores normales de inmunoglobulinas y subpoblaciones linfocitarias por edades.
- Interpretación correcta de pruebas serológicas para el diagnóstico de enfermedades infecciosas e interpretación de anticuerpos vacunales.
- Interpretación correcta de antibiogramas.

##### 1.5 Tratamiento de las enfermedades infecciosas: empírico y específico

- Antibióticos: se detalla en un capítulo específico.
- Antivirales: especial atención a los antirretrovirales.
- Antifúngicos.
- Antiparasitarios.
- Inmunomoduladores e inmunosupresores: corticoides, inmunoglobulina intravenosa inespecífica.



## MÓDULO 2. Enfermedades de posible etiología infecciosa

- Síndrome de Kawasaki.
- Síndrome de fiebre recurrente.
- Síndrome de fatiga crónica.
- Síndrome de Stevens-Johnson, síndrome de Lyell.
- Síndrome de Schonlein-Henoch, etc.

## MÓDULO 3. Antibióticos

- Familias de antibióticos.
- Conocimiento exhaustivo de los principales antibióticos de uso pediátrico.
- Antibióticos de uso exclusivamente hospitalario.
- Farmacocinética y farmacodinámica básica.
- Mecanismos de resistencia de los antimicrobianos. Conocimiento de los mecanismos de formación y diseminación de resistencias antimicrobianas a nivel intrahospitalario. Formas de prevención.

## MÓDULO 4. Medidas preventivas

### 4.1 Vacunas

- Vacunas utilizadas en el ámbito pediátrico, inmunizaciones tanto sistemáticas como no sistemáticas.
- Principales calendarios vacunales.
- Identificación de efectos adversos graves postvacunales.
- Actuación ante una urgencia relacionada con la administración de vacunas (anafilaxia).

### 4.2 Medidas de profilaxis postexposición

- Pinchazo accidental.
- Indicaciones de vacunación/inmunoglobulina intravenosa en ciertas situaciones de riesgo (por ejemplo, varicela, hepatitis A).

### 4.3 Normas básicas y específicas de aislamiento

- Existen unas normas básicas recomendadas internacionalmente.
- Ciertas normas más específicas pueden variar de unos Centros a otros.

### 4.4 Control de la infección nosocomial

- Prevención de la diseminación de infecciones por gérmenes multi-resistentes (por ejemplo, *Acinetobacter baumannii*, *Staphylococcus aureus* metilín-resistente).

## MÓDULO 5. Acceso a la información en enfermedades infecciosas

- Conocimiento y acceso a los principales textos sobre Infectología pediátrica (por ejemplo, *Pediatric Infectious Diseases*, de Sarah Long y cols, Red Book), Vacunas (Manuales, *Vaccine Textbook*, de Stanley Plotkin).
- Conocimiento de las principales revistas de Infectología pediátrica (por ejemplo, *Pediatric*

*Infectious Diseases Journal*), Infectología general (por ejemplo, *Clinical Infectious Diseases*, *Journal of Infectious Diseases*, *Lancet Infectious Diseases*), infección por VIH (por ejemplo, *AIDS*) y vacunas (por ejemplo, *Vacunas: Investigación y Práctica, Vaccine*). Conocer sus accesos *on line*.

- Conocimiento de las principales páginas Web relacionadas con la Infectología pediátrica y general; por ejemplo, Centres of Diseases Control (CDC) y su publicación Morbidity and Mortality Weekly Report (MMWR), Sociedad Española de Infectología Pediátrica (SEIP), Sociedad Enfermedades Infecciosas y Microbiología Clínica (SEIMC), Asociación Española de Vacunología (AEV).

## MÓDULO 6. Técnicas recomendables en Infectología pediátrica

### 6.1 Técnicas básicas recomendadas

- Punción lumbar. Medición de la presión del LCR.
- Manejo básico del funcionamiento de un tubo de drenaje pleural.
- Manejo básico del funcionamiento del drenaje ventricular externo.
- Formas adecuadas de conservación de muestras clínicas para su posterior estudio en el mismo hospital o para ser enviadas a otro hospital.
- Cuidados básicos del mantenimiento y asepsia de los catéteres intravenosos, peritoneales, intraventriculares.
- Técnicas de diagnóstico rápido en Urgencias: tiras de orina, influenza, antígeno estreptocócico, procalcitonina.

### 6.2 Técnicas opcionales

- Colocación de catéter venoso central (femoral, yugular interna).
- Sondaje vesical.
- Administración correcta de vacunas: vías y técnicas de administración (intramuscular, subcutánea, intradérmica).
- Realización de cultivos y antibiogramas.
- Detección e identificación de agentes infecciosos mediante técnicas moleculares (reacción en cadena de la polimerasa, etc.).

## OTROS MÓDULOS

- Rotación por la Unidad de Enfermedades Infecciosas de Adultos.
- Rotación por la Unidad de Medicina Preventiva.
- Rotación por la Unidad de Tropicales.
- Rotación por la Unidad de Oncología y Hematología.
- Rotación por la Unidad de Inmunología.
- Rotación por hospitales de países de Sudamérica, Africa, etc.



## ANEXO E10-1

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### DECLARACIÓN DE SANTIAGO DE COMPOSTELA SOBRE LA ATENCIÓN AL ADOLESCENTE. Mayo 1999.

Comité adolescencia de ALAPE y X Congreso de la  
Sociedad Española de Medicina del adolescente (SEMA)

1. Aceptar como edad de la adolescencia la segunda edad de la vida (10 a 19 años según los criterios de la Organización Mundial de la Salud (OMS) y la Organización Panamericana de la Salud (OPS). Debe hacerse de forma flexible pues hay evidencia de comienzo puberal antes de esa edad y problemas que no se resuelven antes de los 20 años.
2. Se recomienda la utilización de una historia clínica unificada basada en el sistema informático del adolescente (SIA-OPS), incluyendo aspectos actualizados. Esto debe permitir un mejor enfoque biopsicosocial con fines asistenciales, de docencia e investigación.
3. Se considera prioritario que en la currícula del pregrado médico, la asignatura de Pediatría incluya la salud integral del adolescente con un enfoque a la prevención y a la promoción de la salud y su correspondiente evaluación.
4. Se considera la necesidad de que la salud del adolescente sea incluida en la currícula de pregrado de otras asignaturas de la medicina y de otras titulaciones que tengan relación con el adolescente, con el fin de la consecución de un abordaje amplio e integrador.
5. En la formación de especialización de postgrado de Pediatría debe dedicarse un periodo importante del mismo a la adolescencia, tanto en el área hospitalaria como extrahospitalaria.
6. Se considera importante que en la especialización de otras áreas de la medicina o de otras profesiones no médicas, que tengan relación con el adolescente, se incluyan enseñanzas específicas sobre la misma.
7. El pediatra debe ser, por su formación y vinculación al niño y la familia desde el periodo prenatal hasta finalizar el crecimiento y desarrollo, el profesional idóneo para coordinar el equipo de salud que asiste al adolescente.
8. Debe establecerse una certificación oficial de reconocimiento de capacitación en Medicina del adolescente.
9. Se considera imprescindible la educación continuada en el área de la salud del adolescente.
10. Se considera prioritaria la asignación de más recursos humanos y de infraestructuras en la pediatría hospitalaria y extrahospitalaria para la atención al adolescente.



## ANEXO E10-2

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### DOCUMENTO: “DECLARACIÓN DE LIMA”.

por ALAPE – SEMA

#### Documento: “Declaración de Lima”

Las y los representantes de las Asociaciones de los países que conforman la Confederación de Adolescencia y Juventud de Iberoamérica y el Caribe: Argentina, Brasil, Colombia, Cuba, Chile, Costa Rica, Ecuador, España, México, Perú, Portugal, Uruguay y Venezuela se reunieron durante el II Congreso Iberoamericano y del Caribe de Adolescencia y Juventud: Diálogo y entendimiento mutuo, los días 12 y 13 de Agosto 2010 en la ciudad de Lima-Perú.

En relación a la situación actual de las políticas públicas a favor de la adolescencia y la juventud de la Región, la CODAJIC enuncia lo siguiente:

1. Apoya las iniciativas de los gobiernos que han promovido y creado Programas Nacionales de Adolescencia. Insta asimismo a hacerlo a quienes no los hayan efectivizado a la vez que solicita una particular atención a aquellos gobiernos que no les estén asignando los recursos y el apoyo que los mismos merecen.
2. Observa con preocupación la persistencia, en países de la Región, de una legislación obsoleta que atenta directamente contra la implementación de diversos derechos en los y las adolescentes, particularmente en lo referido a la confidencialidad y a la Salud Sexual y Reproductiva.
3. Observa progresos en el reconocimiento de la población adolescente con necesidades específicas para el periodo de desarrollo y crecimiento, sin embargo es necesario que se evidencien en la presencia de Programas, Planes, y Políticas en la mayoría de los países de la región con diferentes niveles de desarrollo, evaluación y seguimiento.
4. Apoya la realización de nuevas investigaciones que generen evidencias científicas y sociales que den sustenten programas y proyectos.
5. Apoya la utilización de la tecnología de información y comunicación en el trabajo con adolescentes y jóvenes.
6. Preocupa la falta de continuidad en Políticas y Programas en la mayoría de los países, lo cual implica no haya un desarrollo sostenible y progresivo de los mismos.
7. Exhorta a fortalecer y renovar el compromiso de los decisores, líderes políticos, representantes de la sociedad civil, formadores de opinión pública, autoridades académicas, con el desarrollo de adolescentes y jóvenes garantizando políticas de estado traducidas en acciones priorizando educación, salud, empleo digno y el ejercicio pleno de su ciudadanía y generadas con participación juvenil y con un plan de monitoreo y evaluación.
8. Exhorta a promover la incorporación del tema Desarrollo y Salud de Adolescencia y Juventud en el curriculum de pre y post grado de las profesiones relacionadas con la atención integral de este grupo poblacional para asegurar personal capacitado.
9. Exhorta a incorporar el enfoque de juventud en todas las políticas públicas generadas en los diferentes países de la región.

Firmado por:

Argentina, Brasil, Colombia, Costa Rica, Cuba, Chile,  
Ecuador, España, México, Perú, Portugal, Uruguay,  
Venezuela





## ANEXO E10-3

.....

### PROGRAMA PARA LA FORMACIÓN EN MEDICINA DE LA ADOLESCENCIA

La adolescencia (10-19 años), aunque se considera la edad más sana de la vida desde el punto de vista orgánico, ya que han disminuido de forma considerable los problemas infecciosos y nutricionales, afronta una serie de amenazas a su salud cuyo origen, cada vez más, está en factores psicosociales y ambientales. La mayoría de estos problemas son prevenibles. Por otro lado, el aumento de la supervivencia a patologías que previamente eran letales en la infancia hace que la prevalencia de enfermedades crónicas en la adolescencia haya aumentado significativamente.

Por todas estas razones, es importante preparar a los distintos profesionales sanitarios para poder atender las necesidades de salud de esta población que son unas necesidades de salud integral (aspectos físicos, psicológicos, emocionales y sociales).

La Sociedad Española de Medicina de la Adolescencia (SEMA) propone un programa para poder cumplir este objetivo. El programa está basado y de acuerdo con la iniciativa Europea (Euteach), que se inició en 1999. Consta de tres partes:

1. Aspectos generales básicos en el cuidado y manejo de los adolescentes.
2. Aspectos específicos como sexualidad, trastornos del comportamiento alimentario o abuso de tóxicos.
3. Salud pública, incluyendo la organización de las adecuadas estructuras para el cuidado de los adolescentes, estrategias de prevención y promoción de la salud, así como el desarrollo de políticas que influyan en la mejora social y ambiental que puedan influir en la salud de este grupo de edad.

### Contenido del Programa

#### TEMAS GENERALES

1. Definición de adolescencia y desarrollo bio-psico-social durante la adolescencia.
2. La familia: influencia y su dinámica.
3. La consulta, el espacio físico. Comunicación y habilidades clínicas. Trabajo multidisciplinar y redes de apoyo.

4. Confidencialidad, intimidad, consentimiento, derechos, aspectos bioéticos y forma de acceso.
5. Contexto e impacto: socioeconómico, cultural, étnico y de género.
6. Recursos, resiliencia y factores de protección, y de riesgo.
7. Comportamientos exploratorios.

#### MÓDULOS ESPECÍFICOS

1. Crecimiento, desarrollo y pubertad.
2. Nutrición, ejercicio y obesidad.
3. Salud sexual y reproductiva.
4. Problemas médicos comunes en la adolescencia.
5. Enfermedades crónicas.
6. Salud mental.
7. Trastornos del comportamiento alimentario.
8. Uso y abuso de sustancias.
9. Violencia y accidentes, incluyendo auto lesiones, abuso, acoso etc.

#### MÓDULOS DE SALUD PÚBLICA

1. Salud en la adolescencia: epidemiología y prioridades.
2. Salud pública aplicada a chicos de edades entre 10 y 19 años.
3. Defensa de la salud de los adolescentes.
4. Educación y promoción de la salud, incluyendo la salud escolar.
5. Servicios de Salud "para Adolescentes", sin barreras.

El contenido de este Programa, puede y debe ser adaptado y hacerse extensivo a otros profesionales de la salud, además de los médicos para los que se diseñó inicialmente. Estos profesionales pueden ser:

- Enfermeras, tanto clínicas como de salud pública.
- Psicólogos y sociólogos.
- Especialistas relacionados con la Medicina, como fisioterapeutas, nutricionistas, logopedas.
- Trabajadores sociales.
- Profesores y educadores.
- Abogados.
- Políticos.



# **RECOMMENDATIONS FOR THE TRAINING OF EUROPEAN PAEDIATRIC NEPHROLOGISTS**

## **EUROPEAN SOCIETY FOR PAEDIATRIC NEPHROLOGY**

**An outline of the minimal requirements for accreditation in the  
European Economic Community**

Approved at the General Assembly 1993

**Addendum 1997**

### **PREFACE**

To obtain a high standard of patient care and scientific research in the field of medicine, high quality postgraduate training programmes in the various medical specialties are indispensable. One of the endeavours of the Union of European Medical Specialists (UEMS) is to have training programmes of comparable quality instituted in the various member countries throughout the European Economic Community (EEC).

Owing to the rapid integration of these countries, doctors can now freely practice medicine throughout the EEC. It is therefore of prime importance for the maintenance of standards of patient care that specialist doctors should receive equivalent training in each of the member countries.

The European Society for Paediatric Nephrology (ESPN), founded in 1967, has member paediatric nephrologists in most European countries within and without the EEC. According to its Constitution, the purpose of the ESPN is "to promote the knowledge of paediatric nephrology and research in this field and to disseminate such knowledge at meetings and elsewhere".

In view of developments in the EEC the ESPN has recognised the need to specify the minimal training requirements for the accreditation of Paediatric Nephrologists. It was also considered important to make recommendations about aspects of the establishments in which training should take place.

The aim of this report is to set out recommendations for minimal postgraduate training in Paediatric Nephrology and for an adequate infrastructure in the training centres. Until these recommendations are incorporated into national guidelines it is envisaged that there will be a flexible transition period for each country during which there will be a gradual change from existing training conditions.

This document was drafted by the late Dr Michael Winterborn, ESPN secretary general 1989 - 1992. After consideration by the Council the recommendations contained in this report were adopted unanimously by the Annual General Meeting of the Society in Heidelberg on 6 September 1993. At the same meeting the Society decided unanimously that, in the best interests of patient care, research and education, Paediatric Nephrology should be accepted as a separate paediatric subspecialty.



**COUNTRIES REPRESENTED IN ESPN in 1993**

Austria	Belgium	Czechoslovakia
Denmark	France	Finland
Germany	Greece	Hungary
Iraq	Ireland	Israel
Italy	Kuwait	Lithuania
The Netherlands	Norway	Poland
Portugal	Russia	Spain
Sweden	Switzerland	Turkey
Yugoslavia	United Kingdom	

**Non European Countries (Associate Members)**

South Africa

United States of America

**COUNCIL OF ESPN 1992-93**

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## PAEDIATRIC NEPHROLOGY

### SUMMARY

This document defines a paediatric nephrologist (section 1) and the work that he or she undertakes (sections 2 & 3). The training requirements for general recognition in Europe as a paediatric nephrologist and hence for accreditation in the specialty by the European Economic Commission are set out (section 4). In outline they are as follows:

<u>Number of years</u>	<u>Activity (in chronological order)</u>
3	Training in general paediatrics (section 4.1)  Research in paediatric nephrology (optional and may be done later)
3	Higher specialty training in paediatric nephrology  (sections 4.2 - 4.4)

The requirements for recognition of an institution for the training of paediatric nephrologists are detailed (section 5).

A mechanism for accreditation is proposed (section 6).

### 1. INTRODUCTION

A paediatric nephrologist is a trained paediatrician specialising in the investigation and treatment of children with renal disease and renal failure. He will often share the care of these children with a general practitioner or general paediatrician. His place of work will normally be an established paediatric nephrology unit. This should offer a full range of renal diagnostic facilities and facilities for treatment of acute and chronic renal failure in children. It will usually be part of an academic department of paediatrics in which research is an integral activity and in which nephrology will be linked with other paediatric subspecialties. This document does not address the training of general paediatricians with an interest in nephrology'.



### 2. TYPE OF WORK OF THE PAEDIATRIC NEPHROLOGIST

The age of the patients ranges from foetal life to the end of the adolescent period. The specific expertise of paediatric nephrologists makes them uniquely qualified to investigate and treat renal disease and its myriad consequences in children from the neonatal period and throughout growth and development. This responsibility would be difficult to undertake without an infrastructure dedicated to paediatric nephrology. The paediatric nephrologist finds it necessary to consult and collaborate with the majority of other

paediatric disciplines both as a responder to requests to care for patients who suffer from acute renal conditions and electrolyte disorders and as a provider of care for children with ESRF. Particularly important are the (paediatric) urologist, paediatric surgeon, transplant surgeon, vascular surgeon, cardiologist, endocrinologist, adult nephrologist, dietician, pharmacist, psychologist, social worker and school teacher.

The practice of paediatric nephrology includes:

2.1 Investigation and non-surgical treatment of patients with:

- 2.1.1 congenital and acquired renal disease
- 2.1.2 disorders of glomerular and tubular function
- 2.1.3 metabolic consequences of renal failure

2.2 Treatment of chronic renal failure:

- 2.2.1 by peritoneal dialysis
- 2.2.2 by haemodialysis and related techniques
- 2.2.3 by transplantation: postoperative and long-term outpatient care

2.3 Prevention of renal disease: e.g. by screening programmes.

### **3. SPECIFICATION OF DUTIES OF THE PAEDIATRIC NEPHROLOGIST**

3.1 Patient care:

Specialised knowledge and skills are essential, both for diagnosis and related procedures and for treatment.

3.1.1 Diagnosis:

History and physical examination, familiarity with renal histopathology and interpretation of urinary tract imaging. Needle renal biopsy, measurement of glomerular filtration rate and tubular function. Performance of renal ultrasound is an advantage.

3.1.2 Treatment:

- 3.1.2.1 Management of glomerular and tubular diseases, body fluid and electrolyte disorders and diseases of the urinary tract.
- 3.1.2.2 Hypertension.
- 3.1.2.3 Maintenance of growth and physical and mental development in children with renal disease.



- 3.1.2.4 Application of dialysis and related techniques to children with acute and chronic renal failure and other non-renal disorders.
- 3.1.2.5 Medical management of renal transplantation.

### 3.2 Teaching:

The paediatric nephrologist is responsible for the education of students and junior doctors in the fields of renal development, function and diseases in infants and children. The teaching obligation in more detail extends to paediatricians and trainees in paediatrics and paediatric nephrology and in a broader sense to trainees in primary health care and obstetrics, to nurses and to paramedical personnel.

### 3.3 Scientific work:

The paediatric nephrologist may engage in **basic** or **clinical** research into congenital and acquired renal disease. Research in nephrology frequently requires collaboration with other disciplines while the small number of patients often necessitates collaboration in multi-centre studies with other paediatric nephrology units.

### 3.4 Management:

- 3.4.1 The organisation and running of the nephrology department including economic aspects.
- 3.4.2 Evaluation (audit): Maintenance of accurate records of the clinical activity of the department to permit audit of clinical activity and administrative efficacy of the nephrology department.



## **4. TRAINING REQUIREMENTS FOR ACCREDITATION IN PAEDIATRIC NEPHROLOGY**

### 4.1 General professional training:

This must fulfil the requirements of the country to register as a paediatrician and must be of at least 3 years duration. It should include experience in neonatology and intensive care and may also include adult nephrology.

### 4.2 Higher specialty training:

This should comprise a further 3 years, some of which may be obtained during the period of general professional training. During the training period a high standard of expertise should be obtained in both inpatient and outpatient environments of:

- 4.2.1 The embryology of the kidney and urinary tract.
- 4.2.2 The anatomy, histopathology and physiology of the kidney and its circulation under normal and abnormal conditions.
- 4.2.3 The pathology and pathophysiology of congenital and acquired diseases of the kidney and urinary tract in the growing child.
- 4.2.4 The aetiology, symptomatology, diagnosis and differential diagnosis of congenital and acquired renal diseases in the foetus, infant and child and their appropriate investigation by imaging, tests of function and histopathology.
- 4.2.5 The performance or detailed knowledge of the following procedures: #9;
  - 4.2.5.1 Renal biopsy.
  - 4.2.5.2 Renal ultrasound.
  - 4.2.5.3 Clearance techniques for the measurement of glomerular filtration rate and the activity of functionally distinct segments of the renal tubule.
  - 4.2.5.4 The application of peritoneal dialysis, haemodialysis and related techniques together with peritoneal and vascular access for acute and chronic problems.
- 4.2.6 The use of diet and drugs for the treatment of renal diseases.
- 4.2.7 During the training period the trainee should acquire knowledge of the indications and management of surgical interventions in the urinary tract.
- 4.2.8 A good understanding should also be obtained of the causes of bladder voiding abnormalities, their cystometric investigation and their medical and surgical treatment.
- 4.2.9 A good understanding should be obtained of the prevention, manifestations and management of psycho-social problems which arise in children with chronic renal disease and their parents.
- 4.2.1 The trainee should be made aware of the ethical issues commonly encountered in the practice of paediatric nephrology and research.



## 5. REQUIREMENTS FOR INSTITUTIONS OFFERING PAEDIATRIC NEPHROLOGY TRAINING

Higher specialty training in Paediatric Nephrology should be based at established paediatric nephrology units which offer a full range of renal diagnostic facilities plus facilities for the treatment of acute and chronic renal failure. They will usually be part of academic departments of paediatrics in which research is an integral activity and they will be linked with other paediatric subspecialties.

- 5.1 Paediatric specialists Should be employed within the institution or a linked one in the following specialties: anaesthetics, cardiology, dietetics, endocrinology, histopathology, psychiatry, psychology, radiodiagnostics, paediatric surgery, transplant surgery, (paediatric) urology and social work. Training should be conducted by at least two fully trained paediatric nephrologists in one or more centres.
- 5.2 Surgery: At the institution, or at a closely linked one, the necessary infrastructure for urological and renal transplant surgery in babies and older children must be present.
- 5.3 Ancillary services: The institution, or one closely linked to it, must be equipped for imaging of the kidney and urinary tract and for renal histopathology including electron microscopy and immunofluorescent antibody staining of biopsy material.
- 5.4 Patient load: At the training institution the number of patients and their care must be of such a standard as to be able to meet the training requirements within the time set.

5.5 The institution should ensure that

- 5.5.1 The trainee is spending the major part of his or her time in paediatric nephrology.
- 5.5.2 The trainee is fully acquainted with the theoretical aspects of paediatric nephrology listed in paragraphs 4.2.1 - 4.2.10.
- 5.5.3 Whilst under training the trainee performs the procedures listed under 4.2.5 so that they can be performed independently and safely after accreditation.
- 5.5.4 Discussions concerning patient care are held regularly.
- 5.5.5 Joint discussions with collaborating specialists e.g. surgeons, histopathologists, are held regularly.
- 5.5.6 The trainee is involved in the preparation of children and their families for dialysis and renal transplantation.
- 5.5.7 The trainee has sufficient access to high quality paediatric nephrological literature which is discussed regularly.
- 5.5.8 All relevant equipment is of sufficiently high quality to allow good training.
- 5.5.9 The trainee becomes familiar with the psychosocial problems of the patients and their families.
- 5.5.10 There is appropriate contact with adult nephrologists.
- 5.5.11 The trainee is given sufficient time and opportunity to undertake research in the field of paediatric nephrology and to present the findings at scientific meetings and publish them in reputable journals. This should amount to at least 2 half days per week, or the equivalent as a continuous period, away from the clinical service.





## 6. ACCREDITATION

Accreditation will be granted to trainees who have satisfactorily completed their higher specialty training in paediatric nephrology and a formal assessment. Given the necessary funding we propose that the recognition of training institutions and the assessment of trainees should be conducted by representatives of the European Society for Paediatric Nephrology.

Revised and agreed by ESPN Council and M.H.Winterborn 8.4.93 (ref: esp8493.sam)

Revised by Dr K Verrier Jones 10.6.93 & 13.10.93

ESPN Training Document

### **Addendum 29<sup>th</sup> September 1997**

**The following additions were accepted by Council and confirmed at the General Assembly in Athens 29<sup>th</sup> September 1997.**

#### **Definitions**

##### **Syllabus**

The syllabus is the word used to describe the content of training and type of work to be covered during training.

##### **Training Programme**

This refers to the practical arrangements for training which enable the trainee to cover the syllabus. The training programme may be arranged as **modules** carried out in different centres or in different sections within the same centre, to enable the trainee to gain experience in breadth and depth.

##### **Training Record**

This refers to a personal log book of the trainees experience which provides a record of work undertaken, experience, techniques learned and conditions seen, as well as any other comments the trainee wishes to record. It serves to aid the trainee and forms part of the final assessment (accreditation).

##### **Accreditation**

At the present time it is considered inappropriate to include a final examination as part of the training programme or accreditation process. There is no mechanism or funding to undertake this and a written examination is not considered to be the best way to assess the skills required in paediatric nephrology.

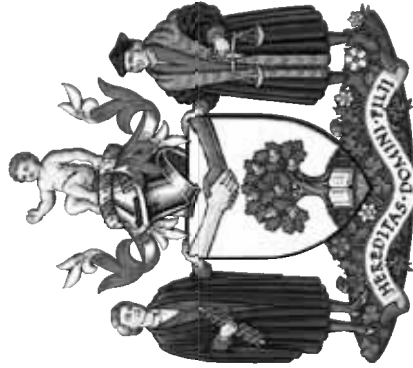
##### **K Verrier Jones**

##### **ESPN Secretary General**

10.10.97



**Curriculum for Paediatric  
Training  
Paediatric Nephrology  
Level 1, 2 and 3 Training**  
Sept 2010



**ANEXO E11-2**

Curriculum for Paediatric Nephrology

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Curriculum for Paediatric Nephrology

Quick Start to the Curriculum

1. What does the curriculum tell us?

The curriculum includes

- Competencies that need to be achieved by trainees through their stages of training in becoming a paediatrician
- Assessment strategy through the whole of their training to successful completion and the award of a CCT (Certificate of Completion of Training)

2. Who does the curriculum benefit?

- Trainees will be able to develop their personal development plans and chart their progress through training ensuring they are gaining the appropriate experiences and continuing to develop towards being a consultant. This contributes to appraisal, self-assessment, self-directed learning and educational meetings.
- Trainees will be able to ensure their trainees are developing in the correct areas and ensure their teaching covers the right areas. It will also help them complete their end of post review.
- Tutors will be able to ensure local teaching programmes map to the curriculum.
- Lay people will be able to see what their paediatricians are working towards in their training. A summary is contained within Progression in the Professional Development of a Paediatrician

3. How can we use the curriculum and its layout?

The curriculum lists the competences to be gained at each level of training. It is not a checklist to be completed by the trainee against every competence. The assessment strategy ensures that the curriculum is sampled adequately.

Level 1 training / ST1-3 – previously SHO's, this stage is in the first (green) column

Level 2 training / ST4-5 – middle grade is the middle (blue) column

Level 3 training / ST6-8 – (at which stage some trainees will enter national grid training to train in a sub-speciality) this level is the final (purple) column.

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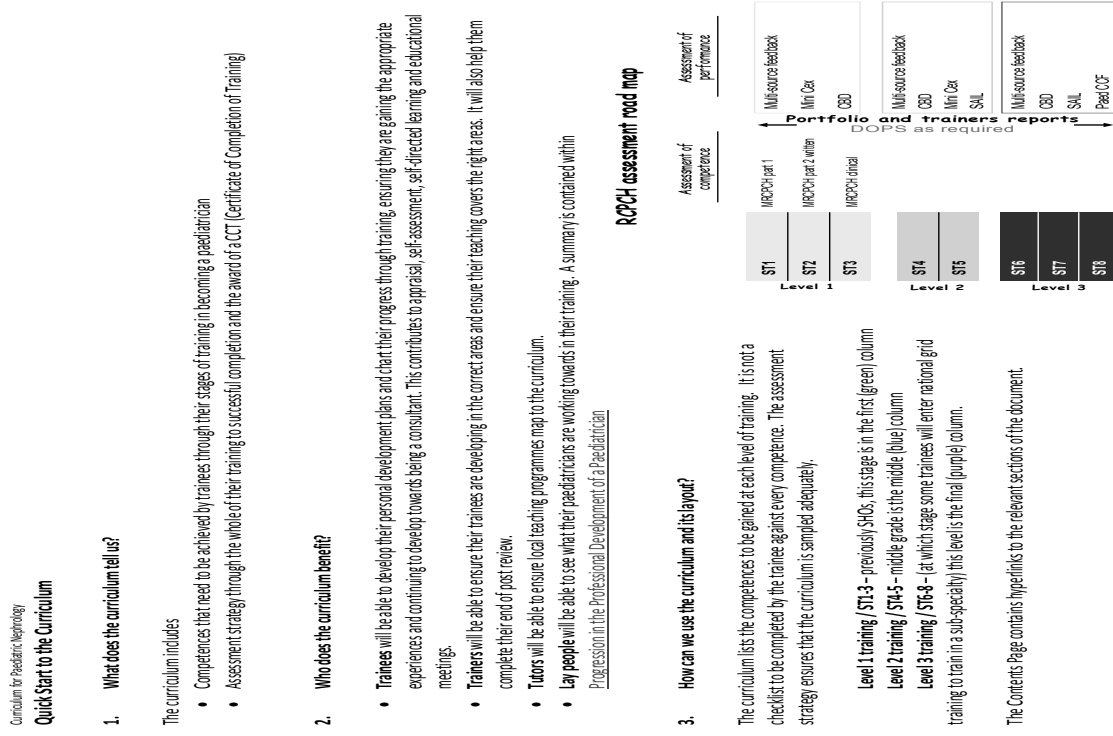
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**i) For those training towards being a General Paediatrician**

- Section 1 details how to use the document
- Section 2 gives the competences for a Level 1, Level 2 and General Level 3 trainee paediatrician in the overarching knowledge and skills required e.g. communication skills, teaching and training skills, research and audit, managing a consultation etc.
- The competences are listed under the most relevant assessment standard, e.g. the overall learning outcome. The progression of these competences can be followed through the levels of training
- Section 3 details the condition-specific knowledge and skills as a list. The level at which they are achieved is highlighted by a tick in the appropriate box and again the progression can be followed as the levels rise.
- Section 4 explains the assessments and the assessment system with the minimum assessment requirements for each year and at each level of training.
- See [About Assessments](#)

**ii) For those training towards a sub-specialty**

- Section 1 details how to use the document.
- Section 2 gives the competences for a Level 1, Level 2 and Level 3 sub-specialty trainee paediatrician in the overarching knowledge and skills required e.g. communication skills, teaching and training skills, research and audit, managing a consultation etc.
- The competences are listed under the most relevant assessment standard, e.g. the overall learning outcome. The progression of these competences can be followed through the levels of training.
- Section 3 contains the new knowledge and skills required for the sub-specialty conditions.
- Section 4 details the condition-specific knowledge and skills for all the other specialties that need to be maintained throughout a trainee's final level of training.
- Section 5 explains the assessments and the assessment system.

**General Paediatrics or Subspecialty Training at Level 3**

By the end of level 3 training all successful trainees will be awarded a CCT in the specialty 'Paediatrics'. The initial core five years (ST1-5) is common to all trainees. In Level 3 training, trainees either continue in General Paediatric training or complete a subspecialty training programme. Following either route will require you to achieve a set of common generic competences to acquire at this stage of training as well as subspecialty specific competences. As a general paediatric trainee you will consolidate your training through a series of general posts. As a subspecialty trainee, whilst acquiring new knowledge and skills in a chosen sub-specialty you will also consolidate your general training and management of the patient with complex multi-system disease.

For further information on entry to sub-specialty training <http://www.rcpch.ac.uk/training/NTN-Grid-Scheme>

**4. How will the curriculum competences be achieved?**

Learning will take place in a variety of settings with a range of approaches:

- Acute settings
- Community settings
- Handover
- Ward rounds
- Multi-disciplinary meetings
- Audits and research
- E-learning
- Seminars
- Lecture
- External training courses
- Reflective practice
- Self-directed learning

Most events in the workplace will contribute to the learning process. Trainees are encouraged to utilise all these opportunities as well as managing their study leave to work towards completing their personal development plan.

**5. How often should it be used?**

*By Trainees:*

The document is for reference and should be used to guide a trainee and trainer through the training programme. Some trainees may find it useful to use as a resource during reflection, helping them to assess what has been achieved and what still needs to be developed. The e-portfolio assists in this process by allowing the trainee to record comments on competences, attach evidence of achievement and highlight confidence in the areas.

*By Local Education Providers (usually a Hospital Trust/School):*

LEPs and schools may use the curriculum to design the structured learning programme throughout the year.

#### 6. Is this the definitive guide?

Yes – this is a comprehensive document detailing the fundamental knowledge, skills and behaviours expected from a trained paediatrician working in the UK. Of course as paediatricians develop, they will gain greater knowledge and expertise and build on the elements within this programme.

#### 7. What can't I find?

You won't find any specific details about individual training posts or programmes, formal educational courses or training opportunities – these will be provided by the Deanery, School of Paediatrics or Local Education Provider.

#### 8. Where to go with further questions?

e-mail: [training@cpch.ac.uk](mailto:training@cpch.ac.uk)  
 telephone 020 7092 6000

## Introduction

The curriculum is for doctors in training in Paediatrics, their tutors, educational supervisors and other stakeholders (internal and external) with an interest in post-graduate medical education

The curriculum gives the doctor in training and their tutors' guidance about the areas that need to be covered. It gives a clear picture of what has to be achieved by the end of each stage of training.

The curriculum can be used to help identify areas of practice that need to be improved and those in which the trainee has confidence.

The competences that are gained during Level 1 training form the basis for progression into Level 2 and Level 3 training and onto consultant posts. The way in which the statements are written is intended to reflect this. The framework of competences reflects a spiral curriculum in that it asks the trainee to demonstrate continual development as their training progresses i.e. basic competences become more complex and sophisticated as the paediatrician in training works towards expertise. Table 1 illustrates this progression through training.

The competencies are expressed as learning objectives. These are the focus of training and at the end of each level of training the ARCP panel will want to know how well these objectives have been achieved. This document is to SUPPORT training and is not intended as an assessment document.

### What is a Paediatrician?

Paediatricians have a detailed knowledge and understanding of diseases in children. They are skilled in looking after health and ill-health in babies, children and adolescents, and at specific health issues, diseases and disorders related to these stages of growth and development. They develop expertise in practical procedures specifically related to the good clinical care of small babies and children. Paediatricians work in multi-disciplinary teams and with colleagues from a wide range of professional groups in hospitals, general practice and in the community, in social services and schools and with the voluntary sector. They have strong communication and interpersonal skills and take on a variety of roles within their different communities of practice. They share expertise effectively and assume the responsibilities of teaching, leadership and management roles where appropriate. They work with colleagues to ensure consistency and continuity in the treatment and care of children and young people in all aspects of their well-being. They are committed to a policy of advocacy for a healthy lifestyle in children and young people and for the protection of their rights.

Paediatricians are doctors who have a particular compassion and respect for children, young people and their families and enjoy working with them. They have an expert understanding of the ways in which illness affects the child, the parents and the rest of the family and are skilled in the management of emotionally complex family situations. They show patience and sensitivity in their communications with children and their families and a particular ability to explore each





Paediatricians ensure that they are up-to-date in their practice and endeavour to promote evidence-based medicine where possible. They are keen to develop innovative approaches to teaching in paediatrics and to research. They are committed to the highest standards of care and of ethical and professional behaviour within their specialty and within the medical profession as a whole. Central to their work is the principle that all decisions should be made in the best interests of the child or young person in their care.

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**Progression in the Professional Development of a Paediatrician**

During Level 1	During Level 2 and 3	Continuing development as a consultant
Acquires fundamental knowledge base	Applies knowledge base to provide appropriate clinical care	Evaluates, knowledge and modifies clinical care pathways to enhance patient care.
Acquires clinical examination and assessment skills and applies these in clinical practice	Analyzes clinical findings to derive appropriate differential diagnosis and management plans.	Evaluates assessment findings; refines and modifies management plans.
Acquires all basic technical skills and basic life support	Proficient in all basic technical procedures, some complex procedures and provides advanced life support.	May refresh some skills in these areas dependent on area of clinical practice. May acquire specialty specific skills.
Performs allocated tasks and begins to plan tasks	Plans and prioritises tasks appropriately.	Increasing expertise with evaluation of priorities and appropriate delegation across a wide range of professionals.
Performs allotted teaching tasks	Plans and delivers teaching to trainees and other professionals. Develops peer mentoring skills.	Plans and modifies curricula. Performs assessment and appraisal. Able to provide mentorship.
Aware of management issues	Develops management skills and able to take responsibility for a defined project. Contributes to Committees.	Can negotiate and deal with conflict. Can contribute to and lead committees. Evaluates and modifies management structures.
Performs allocated audit projects and understands the audit cycle	Designs audit project and understands risk management. Able to write appropriate clinical guidelines. Understands the Clinical Governance implications	Facilitates audit, and evaluates results. Evaluates guidelines and ensures implementation of appropriate changes
Understands the principles of critical appraisal and research methodology	Able to appraise the literature critically and apply to clinical practice	Able to evaluate critical appraisal performed by others. Able to lead research projects and support others in research.
Works in multi-professional teams	Able to take the lead and accept leadership from other members of the multi-disciplinary team	Evaluates and modifies multi-professional team-working

SECTION 1

HOW TO USE THE COMPETENCY FRAMEWORK

First of all ensure you have read the Introduction to understand the purpose and key principles of Paediatric Training.

You should then read the sections on Learning and Support for Learning which will enable to understand the system of workplace based learning and other educational opportunities that will be made available to you.

Then you should browse the competencies sections. The headings (assessment standards) are applied to a group of competencies will give you an idea of what you should be aiming to achieve throughout each level of training. The curriculum is separated out into Level 1, Level 2, and Level 3 competencies. However it is important you are aware of progression and achievement of higher level competencies.

The curriculum has the following structure

- Generic competencies and generic clinical competencies (e.g. history taking, consulting, clinical management, communication skills, teaching, management, law and ethics)
- Specialty-specific competencies (e.g. cardiology, endocrinology etc.)

The competencies should be used at appraisals, for self assessment and self-directed learning to check your progression against the range that you are expected to achieve. Your educational meetings will support this process.

Following on from the competency framework is the assessment system which charts your progress through the training programme. You are expected to take the initiative with this, so you will need to read and familiarise yourself with this section too (Section 4). Each year you will be expected to produce evidence of progressing through the competencies at a suitable pace and achieving the appropriate assessments for the Annual Review of Competency Progression (ARCP) Panel. This will be supported by educational supervision and e-portfolio.

There will be a local induction at the start of your programme which will further introduce how the programme will be delivered and assessed by your educational provider. You will also be allocated an educational supervisor who will be responsible for your educational agreement, during your working hours you should be appropriately supervised and this may be your educational supervisor, clinical supervisor, a more senior trainee or another senior clinician.

Within paediatrics all consultants will have a role as a trainer and the majority will have a role both as educational supervisor and clinical supervisor. Many specialty grade doctors (SAS) will undertake the role of clinical supervisor but few will take on the role of educational supervisor. All trainees will be required to have clinical credibility and the ability to teach within their chosen subject and demonstrate both an interest in their specialty and in trainee education and development.



Please read the Introduction and 'How to use the curriculum - Trainees' sections above.

Your roles will vary and may involve providing learning in the workplace, contributing to other forms of learning, providing workplace based assessments and clinical supervision, providing educational supervision and ensuring patient safety within the learning environment.

You should be supported in your role by the Local Education Provider and the Paediatric School and should receive training in all your different roles which contribute to postgraduate education. There should be adequate time within your job plan to carry out your agreed postgraduate training roles to a high standard.

As a **Clinical Supervisor** you will be required to be trained in assessment tools that you are using and will have responsibility for supervising the trainees' day to day clinical practice.

As a **Educational Supervisor** you will be required to have received training in and be familiar with all elements of the curriculum and assessment strategy. You will be required to provide formative developmental support for trainees e.g. acting as facilitator, mentor, supporting the development of the trainees' professionalism and ensure educational objectives are being achieved. You must fully understand the objectives of the period of training for which you are responsible.

For more detailed information please consult your EP and Deany for local procedures and the Gold Guide (<https://www.mmc.nhs.uk/pdf/Gold%20Guide%2009%20-%20Final%20Edition%20v1.pdf>).

**Learning**

Learning will take place in a variety of settings with a range of approaches:

- Acute settings
- Out-patient Clinics
- Community setting
- Handover
- Ward rounds
- Multi-disciplinary meetings
- Audits and research
- e-learning
- Seminars
- Lectures
- External training courses
- Reflective practice
- Self-directed learning

Trainees are encouraged to utilize the opportunities that arise at any time within the workplace, as well as managing their study leave to work towards the achievement of their personal development plan.

**Support for Learning**

During the local Education Providers' induction the trainee will be allocated an education supervisor and informed of the local processes for learning support.

The trainee has responsibility as an adult learner to set their own individual learning objectives for each training post/training programme with the support of their Educational Supervisor. The objectives should then be reviewed at regular intervals utilising the e-portfolio and by demonstrating improvement through the use of workplace based assessments.

There will be deanery processes in place to support any doctor in training who may need additional support. Examples where additional support will suggested may include (and not limited too)

- doctors who have a learning need
- a requirement for reasonable adjustment for the achievement of the competencies
- involvement in a serious incident
- disengagement with the educational process

**SECTION 2****The Competency Framework – General Competences**



**Assessment Standard 1**

**Duties of a Doctor**  
 Knowledge, Skills and Performance

This section details the competences that reflect the overall role of the paediatrician and the behaviours that demonstrate the principle that all decisions should be made in the best interest of the child.

For more information on assessment please see the assessment blueprint.

- 1 an understanding of the roles and responsibilities of paediatricians
  - Level 1 (ST1-3)
  - Level 2 (ST4-5)
  - Level 3 (ST6-8)

**Assessment Standard 1**

**Duties of a Doctor**  
 Knowledge, Skills and Performance

- Standard 1
  - Level 1 (ST1-3)  
 an understanding of the roles and responsibilities of paediatricians
  - Level 2 (ST4-5)  
 a commitment in their practice to the roles and responsibilities of paediatricians
  - Level 3 (ST6-8)  
 a commitment to advocate for the individual child in her/his particular context

Standard 1	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
<b>Competences</b>	<p>Trainees will:</p> <ul style="list-style-type: none"> <li>understand the duties and responsibilities of a paediatrician in the safeguarding of babies, children and young people</li> <li>understand the duties and responsibilities of a paediatrician to support and enable parents and carers to be effective in caring for their children</li> <li>understand the limitations of their competence at this stage of their training and know where and when to ask for help, support or supervision - particularly in relation to safe recognition and management of seriously ill children and young people</li> <li>begin to understand their role in the management of chronic illness in children and young people</li> <li>understand and follow the principle that all decisions are to be made in the best interests of the child or young person in their care</li> <li>develop an understanding of the concept of advocacy for a healthy lifestyle in children and young people and for the protection of their rights</li> <li>understand the responsibility of paediatricians to consider all aspects of a child's well-being including biological, psychological and social factors</li> </ul>	<ul style="list-style-type: none"> <li>understand the limitations of their competence, in relation to safe clinical practice and in their relationships with patients and know where and when to ask for help, support and supervision</li> <li>understand their role in managing the consequences of chronic illness for a child and family</li> </ul>	<ul style="list-style-type: none"> <li>be able to manage and know how to obtain support for the consequences of chronic illness for a child, young person and their family</li> </ul>
	<p>understand the duties and responsibilities of a paediatrician in the safeguarding of babies, children and young people <li>understand the duties and responsibilities of a paediatrician to support and enable parents and carers to be effective in caring for their children</li> <li>understand the limitations of their competence at this stage of their training and know where and when to ask for help, support or supervision - particularly in relation to safe recognition and management of seriously ill children and young people</li> <li>begin to understand their role in the management of chronic illness in children and young people</li> <li>understand and follow the principle that all decisions are to be made in the best interests of the child or young person in their care</li> <li>develop an understanding of the concept of advocacy for a healthy lifestyle in children and young people and for the protection of their rights</li> <li>understand the responsibility of paediatricians to consider all aspects of a child's well-being including biological, psychological and social factors</li> </p>	<ul style="list-style-type: none"> <li>understand the duty of all professionals working with children to report concerns about child protection issues to Social Services</li> </ul>	<ul style="list-style-type: none"> <li>be committed to a policy of advocacy for a healthy lifestyle in children and young people and for the protection of their rights</li> <li>show that they consider all aspects of a child's well-being including biological, psychological and social factors</li> <li>understand the care of the dying child, with particular regard to reasons for not choosing dialysis or transplantation and the ethical issues surrounding the withdrawal of care</li> </ul>
<b>Completions</b>			

Multisource Feedback





Assessment Standards 2-13	
<b>Good Clinical Care</b> Knowledge, Skills and Performance, Communication, partnership and teamwork	
This section describes the generic competencies (knowledge, skills and behaviour) that relate to clinical practice and the importance of the child's needs e.g. APLS, history taking, clinical examination (assessment standards 2-8), promotion of patient safety and therapeutics and prescribing (standards 9-12) and safeguarding children (assessment standard 13).	
For more information on assessment please see the assessment blueprint	

Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
2 Effective responses to challenge, complexity and stress in paediatrics	increasing credibility and independence in response to challenge and stress in paediatrics	responsibility for an effective response to complex challenges and stress in paediatrics
3 advanced neonatal and paediatric life support skills	leadership skills in advanced neonatal paediatric life support	effective responses to life-threatening situations and to unpredictability in paediatric clinical situations
4 effective skills in three-way consultation and examination	responsibility for conducting effective paediatric assessments and interpreting findings appropriately	commitment to focussed and analytic assessments of common and complex clinical problems in paediatrics
5 effective skills in paediatric assessment	responsibility for conducting effective paediatric assessments and interpreting findings appropriately	commitment to focussed and analytic assessments of common and complex clinical problems in paediatrics
6 skills in formulating an appropriate differential diagnosis in paediatrics	improving skills in formulating an appropriate differential diagnosis in paediatrics	effective skills in making safe decision about the most likely diagnosis in paediatrics
7 effective initial management of ill-health and clinical conditions in paediatrics seeking additional advice and opinion as appropriate	responsibility for the effective management of common acute and chronic conditions in paediatrics seeking additional advice and opinion as appropriate	leadership skills in the management of common and complex conditions in general paediatrics and paediatric subspecialties seeking additional advice and opinion as appropriate

8 knowledge, understanding and recognition of common, behavioural, emotional and psychosocial aspects of illness in children and families	effective skills in recognising and responding to behavioural, emotional and psychosocial aspects of illness in children and families	effective skills in ensuring the management of behavioural, emotional and psychosocial aspects of illness in children and families
9 safe practical skills in paediatrics	effective skills in performing and supervising common practical procedures in paediatrics ensuring patient safety	expertise in a range of practical procedures in paediatrics specific to general and sub-specialist training
10 clear record-keeping and report-writing	improving skills in written communication for a range of audiences	effective skills in written communications for a range of audiences, for children and their families, colleagues and other organisations
11 reliable responses to investigations in paediatrics	effective leadership skills in undertaking initial investigations in children, based on an understanding of the risks and benefits in each case	effective collaboration with other specialists in using and interpreting complex investigations undertaken in children
12 Knowledge and skills in safe prescribing of common drugs in paediatrics	improving safe prescribing in paediatrics and in advising others appropriately	responsibility for safe prescribing in common and complex situations and for the supervision of others
13 an understanding of safeguarding and vulnerability in paediatrics	effective skills in the assessment of cases of safeguarding and in contributing to their management	effective skills in advising other agencies in safeguarding cases

Curriculum for Paediatric Nephrology  
**Good Clinical Care**  
 Knowledge, Skills and Performance  
**Assessment Standard 3**

<b>Level 1 (ST1-3)</b> advanced neonatal and paediatric life support skills	<b>Level 2 (ST4-5)</b> leadership skills in advanced neonatal paediatric life support	<b>Level 3 (ST6-8)</b> effective responses to life-threatening situations and to unpredictability in paediatric clinical situations
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Trainees will:

be able to respond appropriately to cardiac arrest	be able to provide advanced neonatal and acute life support as demonstrated by successful completion of and assessment by recognised course	be able to carry out resuscitation using bag, mask ventilation and cardiac compressions	be able to intubate term babies and have had supervised experience of intubating pre-term babies
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**Competences**

be able to provide advanced neonatal and acute paediatric life support and lead the team at a cardiac arrest

be able to intubate newborn infants of most gestations without direct supervision

be able to teach basic life support to junior healthcare professionals

be able to advise the team providing ALS and to liaise effectively with anaesthetist and PICU staff

APLs or equivalent, MSF, DOPS, CBD

Curriculum for Paediatric Nephrology  
**Good Clinical Care**  
 Knowledge, Skills and Performance  
**Assessment Standard 2**

<b>Level 1 (ST1-3)</b> Effective responses to challenge, complexity and stress in paediatrics	<b>Level 2 (ST4-5)</b> increasing credibility and independence in response to challenge and stress in paediatrics	<b>Level 3 (ST6-8)</b> responsibility for an effective response to complex challenges and stress in paediatrics
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Trainees will:

in complex difficult communication situations with children and families show awareness and have begun to develop strategies to respond	begin to develop skills in the management of emotionally complex family situations
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**Competences**

Have developed skills and strategies to manage their personal emotional reactions effectively to allow effective communication on response to distress from others	develop the confidence to be firm and diplomatic in difficult situations, e.g. when dealing with anger
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Have developed effective skills in the management and communication of emotionally complex family situations

MSF, MRCPC, CBD, MINICEX, Portfolio





**Assessment Standard 4**

<b>Level 1 (S11-3)</b> effective skills in three-way consultation and examination	<b>Level 2 (S14-5)</b> responsibility for conducting effective paediatric assessments and interpreting findings appropriately	<b>Level 3 (S16-8)</b> commitment to focussed and analytic assessments of common and complex clinical problems in paediatrics
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Trainees will:

the need to anticipate and respond sensitively to children and young people who are suggesting unwellness or unwillingness about a physical examination and begin to develop appropriate strategies to reassure	have developed strategies to anticipate and respond sensitively to children and young people who are suggesting unwellness or unwillingness about a physical examination	recognise case histories which suggest serious or unusual pathology in children
Be able to take a history accurately and sensitively that routinely includes biological, psychological, educational and social factors in the child and family	take responsibility for an effective consultation that routinely includes biological, psychological, educational and social factors in the child and family	recognise the features of undifferentiated illness which suggest serious or unusual pathology and initiate the appropriate clinical response with appropriate urgency
Have begun to develop skills and strategies to manage consultations effectively with babies, young children, adolescents and their families	Have developed effective consultation skills and strategies with babies, young children, adolescents and their families	recognise the diseases and host characteristics which make certain presentations life-threatening and manage these situations with vigilance and appropriate urgency
Be able to examine children and young people accurately and sensitively in appropriate settings		have developed the self-knowledge, confidence and personal high standards to acknowledge where an assessment might not be comprehensive and to go back to the child, young person and their family for further information
understand the need to conduct a consultation in such a way that a child or young person and their family may feel able to talk about difficult or emotional issues	the ability to conduct a consultation in such a way that a child or young person and their family feel able to talk about difficult or emotional issues	recognise the breadth of different presentations of common disorders
have begun to develop skills to involve both the child and parents or carers when both are present in consultations		be able to assess and manage co-morbidities associated with the range of paediatric presentations

**Competencies**

know about and begin to develop skills to prevent disruptive or antisocial behaviour in children, families and adolescents in clinical settings and to respond to them if they occur	Have developed skills in recording consultations accurately and sensitively whilst maintaining rapport Has developed skills to help prevent disruptive or antisocial behaviour in children, families and adolescents in clinical settings and to respond to them if they occur	Supplement clinical assessment with standardised instruments or questionnaires know when to gather information from other professionals e.g. those working in education, social work or from others who see the child in a variety of settings be able to assess patterns of relationships and functioning within a family and how these might impact on a child's or young person's illness, seeking professional advice where appropriate
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**Assessment Standard 5**

<b>Level 1 (S11-3)</b> effective skills in paediatric assessment	<b>Level 2 (S14-5)</b> responsibility for conducting effective paediatric assessments and interpreting findings appropriately	<b>Level 3 (S16-8)</b> commitment to focussed and analytic assessments of common and complex clinical problems in paediatrics
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Trainees will:

recognise case histories which suggest serious or unusual pathology in children	recognise the features of undifferentiated illness which suggest serious or unusual pathology and initiate the appropriate clinical response with appropriate urgency	be able to examine undifferentiated illness for serious and unusual illness and to recognise potential histiologies
Recognise presentations of common disorders in children	recognise the diseases and host characteristics which make certain presentations life-threatening and manage these situations with vigilance and appropriate urgency	have developed the self-knowledge, confidence and personal high standards to acknowledge where an assessment might not be comprehensive and to go back to the child, young person and their family for further information
assess symptoms and signs accurately		recognise the breadth of different presentations of common disorders
recognise the diseases and host characteristics which make certain presentations life-threatening in children and know when to ask for help		be able to assess and manage co-morbidities associated with the range of paediatric presentations

**Competencies**

know about the use of standardised questionnaires in assessing behaviour	Supplement clinical assessment with standardised instruments or questionnaires know when to gather information from other professionals e.g. those working in education, social work or from others who see the child in a variety of settings be able to assess patterns of relationships and functioning within a family and how these might impact on a child's or young person's illness, seeking professional advice where appropriate
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Curriculum for Paediatric Nephrology <b>Good Clinical Care</b> Knowledge, Skills and Performance		Assessment Standard 7	
Level 1 (ST1-3) effective initial management of all health and clinical conditions in paediatrics seeking additional advice and opinion as appropriate	Level 2 (ST4-5) responsibility for the effective management of common acute and chronic conditions in paediatrics seeking additional advice and opinion as appropriate	Level 3 (ST6-8) leadership skills in the management of common and complex conditions in general paediatrics and paediatric sub-specialties seeking additional advice and opinion as appropriate	Assessments
<p>Trainees will:</p> <p>understand the importance of effective strategies for the management of pain</p> <p>be able to assess and initiate management of patients appropriately</p> <p>understand the importance of negotiated management plans for individual patients and families, including self-care strategies</p> <p>Understand and have the ability to recognise Acute Kidney Injury in acutely ill children and young people</p> <p>begin to make common decisions in the care of patients</p> <p>be able to formulate an initial management plan for complex cases including the need for specialist advice</p>			
<b>Standard 7</b>			
<b>Competencies</b>			
MRCPC, MSF, CBD, MRCeX			
be able to approach new situations which require good clinical judgement with an analytical and informed choice	show regular use of analytic, clinical reasoning	be able to appropriately manage chronic pain syndromes and know when to refer for expert opinion	
be able to make a decision on the most likely diagnosis and discuss this effectively with children and young people and their parents or carer and with other colleagues in the context of investigation and management	be able to make a decision on the most likely diagnosis and discuss this effectively with children and young people and their parents or carer and with other colleagues	to be able to take responsibility for the longer term management of common acute and chronic cases leading or working with teams, sub-specs or other services	
begin to develop analytic, clinical reasoning skills	be able to formulate a differential diagnosis	be able to review and modify a management plan as appropriate and know when to request help from a senior colleague or other services	
be able to recognise and safely manage Acute Kidney Injury and its complications in acutely ill children with support from specialist paediatric nephrology services	be able to initiate appropriate investigations and management plans appropriate to the case	show confidence and independence in the decision-making in the care of patients	
be able to initiate appropriate investigations and management plans appropriate to the case	show increasing confidence and independence in decision making in the care of general paediatric patients	be able to formulate a management plan for complex cases	

Curriculum for Paediatric Nephrology <b>Good Clinical Care</b> Knowledge, Skills and Performance		Assessment Standard 6	
Level 1 (ST1-3) skills in formulating an appropriate differential diagnosis in paediatrics	Level 2 (ST4-5) improving skills in formulating an appropriate differential diagnosis in paediatrics	Level 3 (ST6-8) effective skills in making safe decision about the most likely diagnosis in paediatrics	Assessments
<p>Trainees will:</p> <p>begin to develop analytic, clinical reasoning skills</p> <p>be able to formulate a differential diagnosis</p> <p>show regular use of analytic, clinical reasoning</p> <p>be able to approach new situations which require good clinical judgement with an analytical and informed choice</p> <p>be able to make a decision on the most likely diagnosis and discuss this effectively with children and young people and their parents or carer and with other colleagues</p> <p>be able to make a decision on the most likely diagnosis and discuss this effectively with children and young people and their parents or carer and with other colleagues</p> <p>begin to develop analytic, clinical reasoning skills</p> <p>be able to formulate a differential diagnosis</p>			
<b>Standard 6</b>			
<b>Competencies</b>			
MRCPC, MSF, CBD, MRCeX			
begin to develop analytic, clinical reasoning skills	be able to formulate a differential diagnosis	show regular use of analytic, clinical reasoning	
be able to make a decision on the most likely diagnosis and discuss this effectively with children and young people and their parents or carer and with other colleagues	be able to make a decision on the most likely diagnosis and discuss this effectively with children and young people and their parents or carer and with other colleagues	be able to approach new situations which require good clinical judgement with an analytical and informed choice	





<p>understand the factors which influence children, young people and parents or carers in their approach to following prescribed management and treatment plans</p>	<p>be able to seek the views of children and young people, wherever their illness, regarding individual care and service planning, using expert resources appropriately to help them follow management plans</p>	<p>MRCPC, MSF, CPD, MnicEx</p>
<p>begin to develop strategies to help children, young people and their families to follow management/treatment plans</p>	<p>show that they are developing strategies to help children, young people and their families to follow management plans</p>	
<p>begin to understand the process of bereavement in children and families</p>	<p>understand the process of bereavement in children and families and recognise abnormal grieving patterns</p>	<p>MRCPC, MSF, CPD, MnicEx</p>
<p>be able to manage metabolic bone disease, particularly that associated with renal disease</p>	<p>be able to treat and manage fluid and electrolyte imbalances in renal and non-renal diseases</p>	

**Good Clinical Care**

Knowledge, Skills and Performance

**Assessment Standard 8**

Level 1 (ST1-3) knowledge, understanding and recognition of common, behavioural, emotional and psychosocial aspects of illness in children and families	Level 2 (ST4-5) effective skills in recognising and responding to behavioural, emotional and psychosocial aspects of illness in children and families	Level 3 (ST6-8) effective skills in ensuring the management of behavioural, emotional and psychosocial aspects of illness in children and families
<p><b>Standard 8</b></p> <p>Trainers will:</p> <p>know about normal emotional and behavioural development and how it may affect the child and family at different stages</p> <p>be able to look at behaviour as a form of communication and to take this into account when interviewing, examining and assessing children</p> <p>has begun to develop an approach to the assessment of behaviour problems that uses observation and history-taking</p> <p>have begun to develop strategies and skills to support and engage parents of children with emotional or mental health difficulties</p> <p>know about the effects of developmental difficulties and physical diseases on behaviour and vice versa</p> <p>know about the multi-disciplinary nature of the Child and Adolescent Mental Health Services</p> <p>Recognise the effects of school and other social settings on childhood illness and vice versa</p> <p>know the principles of managing common behaviour problems such as temper tantrums, sleep problems, the crying baby, feeding difficulties, oppositional behaviour, enuresis and encopresis, school refusal</p>	<p>be able to recognise when behaviour features may indicate an underlying cause and to be able to refer appropriately for further assessment</p> <p>have developed an approach to the assessment of behaviour problems that uses observation and information from other sources, such as school as well as history taking</p> <p>have developed some strategies and skills to support and engage parents of children with emotional or mental health difficulties</p> <p>know about the effects of developmental difficulties and physical diseases on behaviour and vice versa and be able to recognise when this occurs</p> <p>know about the multi-disciplinary nature of the Child and Adolescent Mental Health Service and be able to apply this knowledge in discussion of cases</p> <p>are able to manage common behaviour problems such as temper tantrums, sleep problems, the crying baby, feeding difficulties, oppositional behaviour, enuresis and encopresis, school refusal</p>	<p>Understand the impact of illness on mental functioning for both children, young people and their parents and the effects of factors upon behaviour and functioning of the other</p> <p>Understand the impact of relations and mental health upon a child or young person's current and past emotions and behaviour</p> <p>be able to manage and contribute as part of a team to ongoing management of common behaviour problems such as temper tantrums, sleep problems, the crying baby, feeding difficulties, oppositional behaviour, enuresis and encopresis, school refusal</p>
<p><b>Competencies</b></p>		
<p>MRCPC, MSF, CPD</p>		

regard to reduced independence, educational and employment issues
understand the impact of haemodialysis on educational development and be aware of strategies to minimise this
understand that experimental adolescent behaviour can lead to an increase in transplant rejection and loss and have developed strategies to minimise this

<p>know about the initial assessment and management of common causes of admission to hospital due to psychological distress such as self-harm, somatic symptoms of distress</p> <p>know about the signs and symptoms that indicate serious conditions such as ADHD, autistic spectrum disorders, depression, psychosis</p> <p>know about the effects of substance abuse</p> <p>Recognise the mental health components of paediatric illness</p> <p>Be able to assess the mental state of children and young people</p>	<p>are able to undertake the initial assessment and management of common causes of admission to hospital due to psychological distress such as self-harm, somatic symptoms of distress and to refer on when appropriate</p> <p>be able to recognise signs and symptoms that could indicate serious conditions such as attention deficit hyperactivity disorder, autistic spectrum disorders, depression, psychosis</p>	<p>initiate management and efficiently engage and contribute to ongoing multi-disciplinary care</p>	<p>understand the ways in which children's or young people's mental health difficulties may present in infancy, childhood and adolescence</p> <p>Be able to undertake an assessment of the mental state of children and young people taking into account their age and stage of development and know whether they have the skills to help them and when to seek more expert paediatric mental health or psychiatric assessment</p> <p>understand the impact of biological factors, including genetic and cognitive factors on the mental health of children and young people</p>	<p>MRCPCH, MSF, CPD</p>
<p>know how to manage common behavioural problems</p> <p>Understand the possible medical and psychosocial reasons which might lie behind a patient's difficult behaviour</p>	<p>understand the emotional dimensions of eating disorders and recognise and initiate treatment</p> <p>recognise the need for specialised input in the case of serious emotional distress or mental illness and ensure their needs are met within local health provision</p> <p>understand the impact of chronic renal disease on the emotional and physical well-being of the child and family, and on their later life, with</p>	<p>understand the emotional dimensions of eating disorders and recognise and initiate treatment</p> <p>recognise the need for specialised input in the case of serious emotional distress or mental illness and ensure their needs are met within local health provision</p> <p>understand the impact of chronic renal disease on the emotional and physical well-being of the child and family, and on their later life, with</p>	<p>understand the emotional dimensions of eating disorders and recognise and initiate treatment</p> <p>recognise the need for specialised input in the case of serious emotional distress or mental illness and ensure their needs are met within local health provision</p> <p>understand the impact of chronic renal disease on the emotional and physical well-being of the child and family, and on their later life, with</p>	<p>MRCPCH, MSF, CPD</p>





Curriculum for Paediatric Nephrology  
**Good Clinical Care**  
 Knowledge, Skills and Performance

**Assessment Standard 9**

<b>Level 1 (ST1-3)</b> safe practical skills in paediatrics	<b>Level 2 (ST4-5)</b> effective skills in performing and supervising common practical procedures in paediatrics ensuring patient safety	<b>Level 3 (ST6-8)</b> expertise in a range of practical procedures in paediatrics specific to general and sub-specialist training
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Assessments

Trainees will:

- recognise the importance of universal precautions as well as the discarding of sharps within the department
- know the contraindications and complications of procedures
- know the local guidelines for providing sedation and pain relief for practical procedures
- know the relevant monitors for invasive procedures
- know and practise aseptic techniques
- know the appropriate indications, local and national guidelines for undertaking investigations or procedures
- be able to use all equipment required to undertake common procedures and investigations
- perform independently or under supervision where appropriate the range of diagnostic and therapeutic procedures expected at this stage of training
- be aware of safety issues for patients and staff in relation to investigations of body fluids and radiation
- be aware of the factors that are likely to influence the anxiety of the child and how to enlist the help of job leaders
- know the local and national guidelines for obtaining informed consent

recognise complications of procedures and be able to respond appropriately

have developed confidence in independent performance of practical procedures  
 know about processes for critical incident reporting

obtain informed consent appropriately

have developed expertise in practical procedures specifically related to the clinical care of small babies, children and young people

MSF, DOPS, Portfolio

Curriculum for Paediatric Nephrology

understand and follow the local guidelines for the prevention and management of needle stick injuries

develop expertise in practical procedures specifically related to the clinical care of small babies, children and young people

have experience of speaking to parents when complications have occurred

be able to perform native and transplant biopsies safely, and in conjunction with the histopathologist to interpret the histology

TRAINEE'S WILL BE ABLE TO PERFORM INDEPENDENTLY († may need supervision):	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
Collection of blood from central lines	✓		
Electrocardiogram	✓		
Lumbar puncture	✓		
Non invasive blood pressure measurement	✓		
Umbilical artery and venous cannulation and sampling	✓		
Suprapubic aspiration of urine	✓		
Urinary catheterisation, vesicostomy, cannulation, and capillary blood sampling	✓		
Peripheral arterial cannulation		✓	
Routine testing of urine		✓	
Perform basic lung function tests		✓	
Urine microscopy			✓
Renal biopsy including ultrasound localisation			✓







ensure that written information in the form of booklets, leaflets information sheets and websites support verbal communications wherever possible

ensure that written communications summarise accurately discussions with young people and parents or carers and, to avoid confusion and anxiety, do not include info that was not part of the original discussion

have developed skills in the presentation of information relevant to their clinical practice for a range of audiences including spoken presentations at meetings, written information for children and families and training materials for different groups of colleagues

MSF, CBD

**Good Clinical Care**  
Knowledge, Skills and Performance

**Assessment Standard 11**

**Level 1 (ST1-3)**  
reliable responses to investigations in paediatrics

**Level 2 (ST4-5)**  
effective leadership skills in undertaking initial investigations in children, based on an understanding of the risks and benefits in each case

**Level 3 (ST6-8)**  
effective collaboration with other specialists in using and interpreting complex investigations undertaken in children

Standard 11

Trainees will:

- be able to explain the investigation results to parents and/or the child
- demonstrate safe practice in the timely and appropriate requests for investigations
- be able to initiate appropriate investigations
- be able to interpret results of investigations requested and respond appropriately
- be able to record results and document procedures legibly and accurately
- be able to give appropriate medical information when requesting investigations
- know that results should be requested clearly and retrieved promptly
- understand common age appropriate normal ranges and appearances
- be receptive to feedback from patients and parents/careers on the effects of medication/treatment
- be aware of the role of complex investigations e.g. CT and MRI scans and their diagnostic potential and complications

be able to initiate appropriate investigations and management plans appropriate to the case  
recognise when results of commonly used radiological investigations are abnormal

know about the role of complex investigations e.g. CT and MRI scans and their diagnostic potential and complications

Competencies

MSF, CBD

know when to seek advice regarding further investigations of a child or interpretation of an abnormal result

participate in discussions of abnormal results with services, radiologists, staff and formulate approach to management and follow up of uncommon/abnormal results

be aware of the multi-disciplinary investigation of sudden unexpected death in infancy and childhood

ability to safely and effectively manage results of all investigations in the interest of the child, seeking expert advice appropriately

know and understand the role of nephrological imaging techniques, their interpretation and limitations

be able to investigate and manage nephrological conditions

be able to investigate immune-mediated renal disease and apply specific therapies in their management

MSF, CBD



**Good Clinical Care**  
Knowledge, Skills and Performance

**Assessment Standard 12**

**Level 1 (S1-3)**  
knowledge and skills in safe prescribing of common drugs in paediatrics

**Level 2 (S14-5)**  
improving safe prescribing in paediatrics and in advising others appropriately

**Level 3 (S16-8)**  
responsibility for safe prescribing in common and complex situations and for the supervision of others

**Assessments**

**Standard 12**

Trainees will:

Know and understand the pharmacological basis for treatments	Be able to prescribe safely for the newborn and for children of all ages	Know the approved indications and justification for prescribing drugs in common paediatric problems	Know the pharmacokinetics and pharmacodynamics of commonly prescribed drugs	Know about the drug interactions of commonly used drugs	Be aware of possible drug interactions of commonly used drugs where more than one drug is prescribed	Know how to report adverse effects	recognise serious drug reactions for example Stevens-Johnson Syndrome	Know the risks of prescribing in the child-bearing years, in pregnancy and breast feeding mothers	understand the principles of prescribing for newborn babies and breast feeding mothers	Understand the principles of prescribing in children with renal function
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Be able to prescribe safely and supervise the prescription for the newborn and for children of all ages

**Competencies**

know about drug interactions of commonly used drugs

Respond appropriately to errors of prescription or administration and be able to talk to parents about this

be aware of different patterns of drug reaction and of the common precipitants of cutaneous drug reactions

be aware of how to appropriately investigate an adverse drug effect or prescription error

be able to prescribe for newborn babies and breast-feeding mothers

be able to prescribe for children with reduced renal function using the BNF for children and understand when more experienced advice may be necessary

MRCPCH, CBD



**Good Clinical Care- SAFEGUARDING**  
Knowledge, Skills and Performance, Safety and Quality

**Assessment Standard 13**

Level 1 (ST1-3) an understanding of safeguarding and vulnerability in paediatrics	Level 2 (ST4-5) effective skills in the assessment of cases of safeguarding and in contributing to their management	Level 3 (ST6-8) effective skills in advising other agencies in safeguarding cases
<p><b>Standard 13</b></p> <p><b>Competencies</b></p> <p>Trainees will:</p> <ul style="list-style-type: none"> <li>understand the effects of family composition, socio-economic factors and poverty on child health</li> <li>be aware of the effect of the media on public perception of health care issues</li> <li>be aware of the effect of non health policies on child health</li> <li>be aware of child health exploitation issues including child prostitution, child labour and children in combat</li> <li>be aware of the effects of armed conflict on child health</li> <li>know the principles of the UN Convention on the Rights of the Child, apply these in their own practice and work for the protection of these rights</li> <li>be aware of the World Health Organisation and UNICEF</li> <li>be aware of the implications of sustainable development in low income countries</li> <li>be able to recognise increased needs in children who are fostered, adopted or in residential care</li> <li>be able to undertake and document a comprehensive medical assessment of a child looked after by the local authority</li> </ul>	<p><b>Assessments</b></p>	

MRCPC, CBD, SAIL, Portfolio

<p>be able to recognise and outline the management of children in need of protection</p> <p>know about the resources that may be available from health and other agencies, including the voluntary sector and the roles of allied health professionals to support children and their families</p> <p>have a basic understanding of local inter-agency structures for joint planning of services</p> <p>have an understanding of how different disciplines and agencies collaborate locally with respect to looked after children, children with disabilities and over child protection issues</p> <p>understand concepts and factors underpinning child protection work</p>	<p>know where help with management of children in need of protection can be obtained and understand the pathways to ensure follow up</p> <p>understand the role of named and designated professionals</p> <p>be aware of the role of medical adviser on adoption of the local adoption panel and know how adoption medical reports are compiled</p> <p>understand the difference between civil and criminal proceedings</p> <p>understand the difference between a medical report and a witness statement for the police and be able to produce either</p> <p>be able to assess and initiate the management of the child in need of protection</p> <p>know how to act upon cases of suspected child abuse</p>
<p>recognise features in presentation, where child protection may be an issue for example where there are patterns of injury, delay in presentation, inconsistencies in the history</p> <p>recognise where families are distressed and need help to prevent child abuse</p> <p>be familiar with the different categories of abuse and recognise that they may occur together: physical, emotional, sexual, neglect, fabrication or falsification/induction of illness in a child</p> <p>understand the emotional impact of abuse on the child, family and on professionals</p>	<p>be alert to the diversity of physical signs and symptoms that might indicate child abuse</p>





Curriculum for Paediatric Nephrology		have attended an advanced child protection course for professionals	maintain skills in recognition, assessment and reporting of child protection/safeguarding	MRCPC, CBD, SAIL, Portfolio
have attended child protection awareness training	Understand what is required when asked to give evidence in court as a witness of fact			
Understand the need to initiate a safe response where abuse is suspected while treating the family with respect and courtesy at all times	Know the local guidelines and follow up procedures for cases where child abuse is suspected			
		be able to assess safe parenting skills and recognise and respond to indications of unsatisfactory or unsafe parenting		
		know that child abuse may present with a range of nephro-urological symptoms, including urinary tract infection and disturbances of bladder control		

For detailed competences on specific knowledge and skills in acute clinical presentations please follow link to [Safeguarding](#)

Curriculum for Paediatric Nephrology		MRCPC, CBD, SAIL, Portfolio	
know the local guidelines and national guidance and follow the procedures for cases where child abuse is suspected	keep accurate records of all findings and communications with the child, family members and all other professionals	be able to conduct an assessment for physical abuse, recording findings and come to a conclusion about the nature of injuries under supervision	be able to recognise important features in a child's demeanour and interactions with parents and carers and record observations
to be able to record clearly the results of an examination of a baby, child or adolescent using body charts	recognise the importance of noting all observations of the child's demeanour and interactions with parents and carers	understand the need to initiate a safe response where abuse is suspected, whilst treating the family with respect and courtesy at all times	know what to do if a child discloses allegations of abuse
begin to understand the ways in which their own beliefs, experience and attitudes might influence professional involvement in child protection work	begin to understand the principles and practice of common legal processes and legislation relating to safeguarding children and the vulnerable	understand and be able to manage the ways in which their own beliefs, experience and attitudes might influence professional involvement in child protection work	understand the principles and practice of common legal processes and legislation relating to safeguarding children and the vulnerable
know how to access the Child Protection Register	know how to access the Child Protection Register	know how to access the child protection register and understand its role and limitations	have an up to date working knowledge of the legal processes relating to safeguarding children, including the role of the family court, recent national reports and recommendations (e.g. Lord Laming's Review 2009)
be able to contribute under supervision to written reports for the police or social services	be able to contribute to case conferences, strategy meetings or court hearings under supervision	be able to complete and write under supervision the range of reports required in Child Protection Work including police statements, medical reports for social services and court reports	
Understand what is required when asked to give oral or written reports in strategy meetings and case conferences			

Assessment Standards 14-22	
<p><b>Maintaining Good Medical Practice</b> Knowledge, Skills and Performance</p> <p>This section details the overall competences for the knowledge base of the paediatrician (assessment standards 14-15). Each specific speciality has detailed competences for a range of conditions which can be found towards the end of this section. Addressed in this section is also the specific competences for stages of growth and development e.g. emotional, educational, social and nutrition (assessment standard 16) and health promotion activities (assessment standard 17)</p> <p>In addition to a detailed knowledge and understanding of diseases in children and young people, paediatricians must ensure they are up-to-date, conform with highest standards of practice, aim to promote evidence-based medicine where possible and audit practice (assessment standards 18-20).</p> <p>To enhance safe practice the medical ethics and the legislation in relation to paediatrics must be understood and demonstrated (assessment standards 21-22)</p> <p>For more information on assessment please see the <a href="#">assessment blueprint</a></p>	

18	an understanding of an evidence-based approach to paediatric practice	development and refinement of evidence-based clinical paediatrics	independent thinking to enable them to challenge guidelines and procedures in paediatrics where appropriate
19	an understanding of clinical governance activities and audit in paediatric practice	participation in clinical governance activities and audit in paediatric practice	an application of risk assessment strategies through involvement in the development, evaluation and implementation of policy and clinical governance activities in paediatric practice
20	a reflective approach to improvement of professional practice as a paediatrician	a commitment to reflective practice and continuing improvement of practice as a paediatrician	effective skills to maintain and develop knowledge and clinical skills required of a specialist in paediatrics
21	an understanding of equality and diversity in paediatric practice	a commitment to an open-minded approach to equality and diversity in their role as a paediatrician	responsibility for ensuring an open-minded approach to equality and diversity in the paediatric team
22	knowledge of the law regarding paediatric practice	knowledge of the law regarding death, data protection, confidentiality and consent in paediatrics	detailed knowledge of the law regarding death, data protection, confidentiality and consent in paediatrics

14	Level 1 (ST1-3) knowledge of the science-base for paediatrics	Level 2 (ST4-5) sound knowledge of the science-base for paediatrics	Level 3 (ST6-8) detailed up-to-date knowledge of the science base for general paediatrics or a paediatric sub-specialty
15	knowledge of common and serious paediatric conditions and their management	extended knowledge of common and serious paediatric conditions and their management	detailed knowledge of common and serious paediatric conditions and their management in General Paediatrics or in a paediatric sub-specialty
16	an understanding of growth, development, health and well-being in paediatrics	effective skills in the assessment and management of children and young people with normal and abnormal growth and development	effective skills in recognising and responding effectively to disordered growth and development of any kind in paediatrics
17	an understanding of health promotion and public health issues in paediatrics	a commitment to health promotion activities for children and their families	involvement in health promotion activities specific to general paediatrics or a paediatric sub-specialty





**Maintaining Good Medical Practice**

Knowledge, Skills and Performance

**Assessment Standard 14**

Level 1 (ST1-3) Knowledge of the science-base for paediatrics	Level 2 (ST4-5) sound knowledge of the science-base for paediatrics	Level 3 (ST6-8) detailed up-to-date knowledge of the science base for general paediatrics or a paediatric sub-specialty
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Trainers will:

Know and be able to apply the scientific base relevant to clinical practice in paediatrics
Know the aetiology and pathophysiology of common and serious childhood conditions

Competencies

Be able to apply effectively to their practice the knowledge and understanding acquired during training
Know and understand the immunological basis of renal disease

MRCPCB, CPD

See the sub-specialty sections for detailed competencies:

- Cardiology
- Dermatology
- Diabetes and Endocrinology
- Gastroenterology and Hepatology
- Genetics and Dysmorphology
- Haematology and Oncology
- Infection, Immunology and Allergy
- Neonatal Medicine
- Musculo-Skeletal medicine
- Nephrology
- Neuro-urology
- Neurology and Neurosurgery
- Ophthalmology
- Public Health
- Respiratory Medicine, with Ear, Nose and Throat Sub-specialty

**Maintaining Good Medical Practice**

Knowledge, Skills and Performance

**Assessment Standard 15**

Level 1 (ST1-3) Knowledge of common and serious paediatric conditions and their management	Level 2 (ST4-5) extended knowledge of common and serious paediatric conditions and their management	Level 3 (ST6-8) detailed knowledge of common and serious paediatric conditions and their management in a paediatric sub-specialty
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Trainers will:

Understand the promotion of health and the management of ill health in babies, children and adolescents
Understand the specific health issues, diseases and disorders related to the stages of growth and development
Recognise the mental health components of all paediatric illness
Recognise the effects that school and other social settings may have on childhood illness and vice versa

Competencies

Be able to recognise when both physical and psychological problems are present and when more than one condition may be present
Be able to undertake an assessment of the mental state of children and young people, taking into account their age and stage of development and know whether they have the skills to help them and when to seek more expert (paediatric, mental health or psychiatric) assessment

MRCPCB, CPD

know the embryology and development of the genito-urinary system
know the anatomy and structural abnormalities of the genito-urinary system
know the anatomy of native and transplant kidneys
understand salt and water metabolism in the fetus and the transitional events of birth
understand the normal regulation of plasma electrolytes, calcium phosphate and acid-base regulation in pre-natal babies, neonates, infants and children
understand disorders of calcium and bone metabolism especially those induced by kidney



understand normal maturation during childhood
know and understand the indications for a renal biopsy and its complications, and know normal and pathological histological appearances
understand the normal adaptive response of the kidney to fluid and electrolyte disturbance
understand the disorders of the kidney that cause fluid and electrolyte disturbance know the endocrine diseases associated with electrolyte imbalance
understand the dietary restrictions resulting from renal disease and the issue of concordance with dietary changes and restrictions

See the sub-specialty sections for detailed competencies:

- Cardiology
- Genetics
- Diabetes and Endocrinology
- Gastroenterology and Hepatology
- Genetics and Immunology
- Haematology and Oncology
- Infection, Immunology and Allergy
- Metabolic Medicine
- Musculo-Skeletal Medicine
- Neurology
- Nephro-Urology
- Neurology and Neurodisability
- Ophthalmology
- Paediatric Eye
- Respiratory Medicine, with Ear, Nose and Throat
- Sexual Health



**Maintaining Good Medical Practice**

Knowledge, Skills and Performance

**Assessment Standard 16**

**Level 1 (ST1-3)**  
an understanding of growth, development, health and well-being in paediatrics

**Level 2 (ST4-5)**  
effective skills in the assessment and management of children and young people with normal and abnormal growth and development

**Level 3 (ST6-8)**  
effective skills in recognising and responding effectively to disordered growth and development of any kind in paediatrics

Standard 16

Assessments

Trainees will:

**DEVELOPMENT**

understand the variations in relationship between physical, emotional, intellectual and social factors and their influence on development and health	be able to assess the effects of recurrent or chronic illness and its treatment on growth, psycho-social, emotional, physical and sexual development and have strategies to minimise adverse effects
be familiar with the patterns of normal development from birth to adulthood	understand the severity of the presentation of any abnormality in development, taking into account normal development in appropriate domains
understand the need for further assessment and investigation of delayed development and how to access this	know how to institute further assessment, investigation and initial management of delayed development
know and understand the principles of screening and monitoring	know about different modes of screening and health promotion strategies
Understand the specific health issues, diseases and disorders related to the stages of growth and development	
be able to assess and monitor development using appropriate tools	
know the causes of neurodisability, how disability might affect clinical examination and assessment and understand the need for a multi-disciplinary approach to management	be able to lead a multi-disciplinary approach to management of a child with illness and disability
recognise deviations from normal patterns of development	know and understand the range of children's or young people's psychological and social development, including normal range and what is outside it

Competencies

MRCPC, CBD



recognise that child neglect or abuse might affect a child's development
be able to identify abnormal patterns of development

be able to participate in a multi-disciplinary approach to management

understand the impact of other environmental factors on a child's development, mental health and functioning
be able to identify when patterns of development are abnormal and where there may be a risk of abnormality which may only become apparent with time

understand the principles of nutritional support and the impact of renal disease on growth and development
be able to monitor growth and work with clinicians to optimize growth in patients with renal disease

**EMOTIONAL DEVELOPMENT**

know the factors which influence healthy emotional development
understand the emotional impact of illness and hospitalisation on children and their families
understand a child's need for opportunities to play and learn at different ages
understand the emotional dimensions of eating disorders
understand and recognise somatisation disorders
be able to assess parenting skills and recognise indications of unsatisfactory or unsafe parenting
recognise and know the principles of managing common behavioural problems
recognise the need for specialist input in cases of serious emotional distress or mental illness

understand the emotional impact of illness and hospitalisation on children young people and their families and take action to minimise this impact
know how to access help in cases where children or young people of different ages might be deprived of opportunities to play and learn
understand and recognise somatisation disorders and know how to provide initial management and how to access appropriate support

recognise pointers to fabricated and induced illness and know how to seek help and how to access appropriate support
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understand how a family's, child's or young person's attitude to the emotional issues and services may have a significant impact on the presentation and its management
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**SOCIAL DEVELOPMENT**

know the factors that influence social development
understand the impact of autistic spectrum disorders on social development

be able to recognise and understand the impact of autistic spectrum disorders and other organic disorders on social development
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**EDUCATIONAL DEVELOPMENT**

know the factors which influence intellectual development
understand the vulnerability of a child with learning difficulties
understand the impact of learning difficulties on social and emotional behaviour
know about the process of formal statutory assessment of children with possible special educational needs and other educational strategies to support learning and development

demonstrate in all aspects of their practice, an understanding of the vulnerability of a child or young person with learning disabilities
know, understand and be able to compare and contrast medical and social models of disability

contribute to the processes of formal statutory assessment of children with possible special educational needs and other educational strategies to support learning and development
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**GROWTH AND NUTRITION**

understand the effects of fetal growth restriction on long-term health
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know about the principles and methods of alternative methods of feeding e.g. gastrostomy, nasogastric tube and common problems that may arise
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know about the principles and methods and indicators for nutritional support and common problems that may arise from invasive methods of refeeding
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Curriculum for Paediatric Nephrology

understand the importance of emotional factors in feeding and nutrition, in particular in non-organic failure to thrive	be able to monitor growth using appropriate tools	know the reasons for faltering growth, including emotional factors and how to investigate appropriately	understand the range of factors, biological, psychological and social which influence normal growth and puberty	understand and assess normal and abnormal pubertal development and its relationship to growth
be able to monitor growth using appropriate tools	be able to monitor growth using appropriate tools, including in disabled children		be able to identify a family needing nutritional support or advice	be able to recognise feeding problems and work with parents directly to offer simple advice and to treat co-morbid conditions
understand the basic physiology of breast feeding			understand the effects of malnutrition on clinical outcomes	
recognise common breast feeding problems and refer appropriately			describe the effects of malnutrition on clinical outcomes and be able to refer appropriately to the nutritional support team	
Be able to advise a mother about the benefits and risks associated with infant feeding				
be able to advise a mother about appropriate complementary feeding				
understand the role of nutritional support team, specialist nurses, dietitians, psychologists, pharmacists, speech and language therapists in managing feeding and nutrition in paediatrics				
be able to describe a child's nutritional status in terms of balance, body composition and function				
understand the relevance of nutritional requirements for healthy and sick children	understand the differing nutritional requirements for healthy and sick children and advise on nutritional needs	understand the variations in relationship between physical, emotional, intellectual and social factors and their influence on adolescent development		understand what the specific needs of young people are in terms of their emotional, mental and physical health and how these are different from those of children
understand the relationship between nutritional status and disease		understand the different specific and changing health needs of adolescents as inpatients and outpatients		know the epidemiology of the main causes of morbidity and mortality in young people
know about the principles and methods of dietary supplementation	apply the principles of dietary supplementation	understand normal and abnormal pubertal development and its relationship to growth		able to work as part of a clinical network in the management of the young person who self-harms
recognise cultural and religious issues related to nutrition		understand and respond appropriately to episodes of self-harm in adolescents		know about national policies concerning the health care of young people, including those which help to reduce teenage pregnancy
understand the effects of obesity on long term health	understand environmental factors contributing to obesity and how these might be altered	know about national policies for reduction of teenage pregnancy		be able to discuss sexual health issues including basic contraceptive advice and know how to help the young person access appropriate sexual health or genetic advice
understand interventional strategies involved in weight reduction	be able to advise on interventional strategies involved in weight reduction	know about the issues around transition from paediatric to adult care in adolescents with chronic conditions		understand issues around transition from paediatric to adult care in adolescents with chronic conditions and disabilities and be able to contribute to transitional care services

MRCPC, CPD

ADOLESCENCE

be able to engage effectively with adolescents

understand and assess, under supervision, normal and abnormal pubertal development
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- Royal College of Paediatrics and Child Health -

Curriculum for Paediatric Nephrology

understand the importance of emotional factors in feeding and nutrition, in particular in non-organic failure to thrive	be able to monitor growth using appropriate tools	know the reasons for faltering growth, including emotional factors and how to investigate appropriately	understand the range of factors, biological, psychological and social which influence normal growth and puberty	understand and assess normal and abnormal pubertal development and its relationship to growth
be able to monitor growth using appropriate tools	be able to monitor growth using appropriate tools, including in disabled children		be able to identify a family needing nutritional support or advice	be able to recognise feeding problems and work with parents directly to offer simple advice and to treat co-morbid conditions
understand the basic physiology of breast feeding			understand the effects of malnutrition on clinical outcomes	
recognise common breast feeding problems and refer appropriately			describe the effects of malnutrition on clinical outcomes and be able to refer appropriately to the nutritional support team	
Be able to advise a mother about the benefits and risks associated with infant feeding				
be able to advise a mother about appropriate complementary feeding				
understand the role of nutritional support team, specialist nurses, dietitians, psychologists, pharmacists, speech and language therapists in managing feeding and nutrition in paediatrics				
be able to describe a child's nutritional status in terms of balance, body composition and function				
understand the relevance of nutritional requirements for healthy and sick children	understand the differing nutritional requirements for healthy and sick children and advise on nutritional needs	understand the variations in relationship between physical, emotional, intellectual and social factors and their influence on adolescent development		understand what the specific needs of young people are in terms of their emotional, mental and physical health and how these are different from those of children
understand the relationship between nutritional status and disease		understand the different specific and changing health needs of adolescents as inpatients and outpatients		know the epidemiology of the main causes of morbidity and mortality in young people
know about the principles and methods of dietary supplementation	apply the principles of dietary supplementation	understand normal and abnormal pubertal development and its relationship to growth		able to work as part of a clinical network in the management of the young person who self-harms
recognise cultural and religious issues related to nutrition		understand and respond appropriately to episodes of self-harm in adolescents		know about national policies concerning the health care of young people, including those which help to reduce teenage pregnancy
understand the effects of obesity on long term health	understand environmental factors contributing to obesity and how these might be altered	know about the issues around transition from paediatric to adult care in adolescents with chronic conditions		understand issues around transition from paediatric to adult care in adolescents with chronic conditions and disabilities and be able to contribute to transitional care services
understand interventional strategies involved in weight reduction	be able to advise on interventional strategies involved in weight reduction			

MRCPC, CPD

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- Royal College of Paediatrics and Child Health -





be aware of issues relating to gender and sexual identity

recognise risk-taking behaviours, particularly those which pose a threat to chronic disease management

understand the process of adolescence including experimental behaviours, learning by experience, achieving independence from the family and the consequences of these on health and illness in young people

understand the particular needs of adolescents with regard to their independence and autonomy, education and work, body image and sexual identity, concordance with medication and risk-taking and understand how these factors may be affected in young people with chronic conditions

understand and value the roles of members of the multi-disciplinary team in the delivery of a transitional care programme

ensure that young people have access to in-patient and outpatient and other medical services that best meet their needs

be able to discuss comfortably with young people important health behaviours such as the use of tobacco, alcohol or recreational drugs and intimate and sexual activities together with the promotion of appropriate strategies for these in relation to specific conditions such as asthma, diabetes, cystic fibrosis, physical disability

be able to support young people in self-management of both chronic and acute disease where they want to, and have an understanding as to how to best help when the young person cannot or does not want to manage this

be able to discuss the implications of chronic illness or disability for career options

where appropriate and at a negotiated time, be able to raise and agree management of end-of-life issues with young people and their families and record conclusions in medical notes

MRCPC, CBD

**Maintaining Good Medical Practice**  
Knowledge, Skills and Performance, Quality and Safety

**Assessment Standard 17**

<b>Level 1 (S1-3)</b> an understanding of health promotion and public health issues in paediatrics	<b>Level 2 (S4-5)</b> a commitment to health promotion activities for children and their families	<b>Level 3 (S6-8)</b> involvement in health promotion activities specific to general paediatrics or a paediatric sub-specialty
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Trainees will:

be aware of the key determinants of child health and well-being

be aware of available outcome measures which are used to monitor the health of a child population

be aware of the indices of social deprivation

understand the key determinants of child health and well-being

know about available outcome measures which are used to monitor the health of a child population and how they might be used to guide and monitor service delivery

understand the indices of social deprivation

**Competencies**

know about the organisation of NHS management structures and service networks

know how healthcare services relate to national and local education and social services

have awareness of current government policies which relate to children

be aware of the principles of health promotion and health education and of current health promotion activities carried out in the community

understand the cause of outbreaks of infection, its investigation and control

understand the principles of public health needs assessment

show that they understand, in their practice, how healthcare services relate to education and social services

be familiar with current government policies which relate to children

understand and be able to contribute to health promotion and health education and be aware of current health promotion activities carried out in the community

show that they understand in their practice the causes of outbreaks of infection, its investigation and control

be able to lead within paediatrics on responding to outbreaks of infection and control

MRCPC, Portfolio

	<p>Know the local, national and international structures for healthcare</p> <p>Understand how healthcare services relate to education and social services</p> <p>Understand the principles of immunisation programmes, national and local structures that deliver immunisation programme and how they might be monitored and audited</p> <p>Be aware of patient safety issues and the importance of prevention of nosocomial infection</p>	<p>Know the local, national and international structures for healthcare</p> <p>Understand how healthcare services relate to education and social services</p> <p>Understand the principles of immunisation programmes, national and local structures that deliver immunisation programme and how they might be monitored and audited</p> <p>Be aware of patient safety issues and the importance of prevention of nosocomial infection</p>
	<p>Know about screening and surveillance programmes</p> <p>Know about the conditions currently screened for</p> <p>Understand the ethical dilemmas posed by screening</p> <p>Be able to explain specific screening to parents</p> <p>Be able to conduct developmental examinations at different ages</p>	<p>Know about screening and surveillance programmes, including their implementation and evaluation</p> <p>Be able to explain specific screening to parents and organise these tests as necessary</p> <p>Be able to refer appropriately when required</p>
	<p>Understand the importance of evidence to support health promotion activities</p> <p>Know the role of health promotion programmes for example to prevent dental decay, smoking, accidents, obesity, sudden infant death</p> <p>Be able to advise parents of avoiding risks for children</p> <p>Know about population statistics and know how they might be used in service development</p>	<p>HEALTH PROMOTION</p> <p>Be able to incorporate health promotion activities in their practice</p> <p>Include health promotion messages during the consultation where appropriate</p> <p>Be able to contribute to health promotion programmes</p> <p>PUBLIC HEALTH AND EPIDEMIOLOGY</p> <p>Understand about population statistics and know how they might be used in service development</p>



	<p>Understand the role of public health doctors in commissioning NHS services</p> <p>Understand good study design</p> <p>Know the principles of how to conduct population studies</p> <p>Be able to evaluate evidence</p>	<p>Understand the role of public health doctors in commissioning NHS services</p> <p>Understand good study design</p> <p>Know the principles of how to conduct population studies</p> <p>Be able to evaluate evidence</p> <p>Be able to evaluate evidence and critique clinical research papers</p>
	<p>Understand the epidemiology of injuries in children and young people</p> <p>Know about the sequelae of injury</p> <p>Know about rehabilitation</p> <p>Be able to recognise when injury may be non-accidental</p> <p>Be able to recognise and treat accidental ingestion and deliberate self-poisoning</p> <p>Be able to advise parents on injury prevention</p>	<p>INJURY PREVENTION</p> <p>Know about effective injury prevention initiatives</p> <p>Be able to recognise when injury may be non-accidental and to assess that injury</p> <p>Be able to advise parents on injury prevention and contribute to local injury prevention programmes</p>
	<p>Understand passive and active immunisation</p> <p>Understand the principles and the rationale behind the national immunisation policy for children in Britain</p> <p>Know the indications, contraindications and complications of routine and specific childhood immunisations</p> <p>Be able to advise parents</p>	<p>IMMUNISATION</p> <p>Know about immunisation programmes and schedules in the UK and elsewhere</p> <p>Understand the principles of immunisation programmes, national and local structures that deliver immunisation programme, and how they might be monitored and audited</p> <p>Be able to contribute to immunisation programmes by contributing to training and auditing outcomes</p> <p>Know where and from whom to seek advice for the most complex histories about immunisations</p> <p>Be able to advise parents and professionals about commonly referred immunisation problems</p>



**Maintaining Good Medical Practice**

Knowledge, Skills and Performance, Quality and Safety

**Assessment Standard 18**

**Level 1 (ST1-3)**  
an understanding of an evidence-based approach to paediatric practice

**Level 2 (ST4-5)**  
development and refinement of evidence-based clinical paediatrics

**Level 3 (ST6-8)**  
independent thinking to enable them to challenge guidelines and procedures in paediatrics where appropriate

Standard 18

Assessments

Trainees will:

know how Cochrane systematic reviews are developed and the principles of meta analysis
ensure that they are up to date in their practice and endeavour to promote evidence-based medicine where possible
be able to give an evidence based presentation

Competencies

have an understanding of common treatments for clinical conditions and the evidence-base for these
be able to give an evidence based presentation and be able to analyse critically those given by others

demonstrate an understanding of how to perform and interpret systematic reviews and how they differ from narrative reviews and understand the principles of meta-analysis
be able to practice evidence based medicine and understand and analyse critically its limits

ensure they are up-to-date in their practice and promote evidence-based medicine where possible
be able to understand the limitations of guidelines, how to use guidelines effectively and when it is appropriate to work outside guidelines
know specific national audit standards and guidelines relating to renal disease

MRCPCH, MSF, CBD, Portfolio

**Maintaining Good Medical Practice**

Knowledge, Skills and Performance, Quality and Safety

**Assessment Standard 19**

**Level 1 (ST1-3)**  
An understanding of clinical governance activities and audit in paediatric practice

**Level 2 (ST4-5)**  
participation in clinical governance activities and audit in paediatric practice

**Level 3 (ST6-8)**  
an application of risk assessment strategies through involvement in development, evaluation and implementation of policy and clinical governance activities in paediatric practice

Standard 19

Assessments

Trainees will:

know how clinical guidelines are produced and how they might be used appropriately within the context of clinical practice
familiar with and follow the local and national clinical guidelines and protocols
understand the principles of evaluation, audit, research, development and standard setting in improving quality
participate in clinical governance activities, risk management and audit
be able to use ICT effectively in clinical practice and audit
know how to access clinical databases and where to find web-based information

Competencies

demonstrate an understanding of how guidelines are produced and how these might be used in their own practice
begin to evaluate and generate local and national clinical guidelines and protocols in paediatric practice and recognise the individual patient's needs when using them
begin to use the principles of evaluation, audit, research, development and standard setting in improving quality
participate in clinical governance activities and support colleagues in their participation

show that they are regularly using clinical databases and know where to find web-based information
be aware of local processes for dealing with and learning from clinical errors

be able to develop clinical guidelines, understand how they are produced rationally and how these should be used to guide their own practice
Be able to generate local and evaluate national clinical guidelines and protocols in paediatric practice and public health and recognise the individual patient's needs when using them
use principles of evaluation, audit, research and development in standard setting in improving quality
participate and take responsibility for clinical governance activities and encourage and support colleagues in their participation

be aware of local processes for dealing with and learning from clinical errors and to be able to work within them
understand and take account of their practice of risk issues to themselves and others, including those related to personal interactions and bio hazards

MRCPCH, MSF, CBD, Portfolio

able to conduct an audit of screening, health promotion or service delivery under supervision
be able to advise families about complaints procedure

be aware of complaints protocols in hospitals
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<b>MRCPC, MSF, CBD, Portfolio</b>	
be able to handle a complaint	<p>have a working knowledge of risk assessment and its application to personal, professional, clinical and organisational practice</p> <p>understand and take account in their practice of measures to reduce clinical risk</p> <p>be able to carry out audit in a range of settings in partnership with all stakeholders in order to identify best practice</p> <p>be able to contribute to the implementation of national and local health policy initiatives</p> <p>be able to perform unimolysis and teach this to children, young people and parents</p> <p>participate in audit, for example, auditing biochemical and haematological results against national guidelines</p>
have a working knowledge of risk assessment and its application to personal, professional, clinical and organisational practice	
understand and take account in their practice of measures to reduce clinical risk	
be able to carry out audit in a range of settings in partnership with all stakeholders in order to identify best practice	
be able to contribute to the implementation of national and local health policy initiatives	
be able to perform unimolysis and teach this to children, young people and parents	
participate in audit, for example, auditing biochemical and haematological results against national guidelines	



**Maintaining Good Medical Practice**  
Knowledge, Skills and Performance, Quality and Safety

**Assessment Standard 20**

<b>Level 1 (ST1-3)</b> a reflective approach to improvement of professional practice as a paediatrician
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<b>Level 2 (ST4-5)</b> a commitment to reflective practice and continuing improvement of practice as a paediatrician
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<b>Level 3 (ST6-8)</b> effective skills to maintain and develop knowledge and clinical skills required of a specialist in paediatrics
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**Standard 20**

<b>Trainees will:</b> begin to develop a reflective approach to their practice and a commitment to learning and improving their practice through reflection
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developed a reflective approach to their practice with an awareness of their developing expertise and an ability to learn from previous good practice and clinical errors
---

have developed a reflective approach to their practice, with an awareness of their level of expertise and limitations and their developmental needs
---

have developed a keen self-awareness so that they know when they are ready to take on new challenges such as treating bad news to a family and when they continue to need support and guidance
--

developed a reflective approach about their experience of being a trainee in order to ensure positive experiences for trainees now under their supervision
--

evaluate their own performance critically
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**Competencies**

**MSF, Portfolio**

show a commitment to continuing professional development which would involve not only seeking appropriate training opportunities but also responding to complaints and enquiries as useful learning tools
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be willing to accept mentoring as a positive contribution to their own professional development
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have a willingness to acknowledge and reflect on the way in which they may be influenced by their earlier life experiences, have an impact on perceptions of and interactions with young people, their families and professionals
be willing to learn from others to discuss cases openly and seek advice as appropriate and necessary
know how to find, review and maintain relevant knowledge in their speciality in order to maintain their fitness to practice



<p>be aware of the controversies around the investigations and management of nephrological conditions, particularly urinary tract infection</p> <p>understand the ethical issues surrounding organ donation</p> <p>be aware of issues relating to concordance, with particular reference to transplantation</p>
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**Maintaining Good Medical Practice**

Knowledge, Skills and Performance: Communication, partnership and teamwork, Maintaining Trust

**Assessment Standard Z1**

<p><b>Level 1 (ST1-3)</b> an understanding of equality and diversity in paediatric practice</p>	<p><b>Level 2 (ST4-5)</b> a commitment to equality and diversity in their role as a paediatrician</p>	<p><b>Level 3 (ST6-8)</b> responsibility for ensuring an open-minded approach to equality and diversity in the paediatric team</p>
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Trainees will:

<p>understand the importance of cultural diversity and the difficulties where religious and cultural beliefs held by the local population which impact on attitudes to health and sickness in children and begin to develop strategies to manage relationships where these beliefs might cause conflict (Z1)</p> <p>understand that young people may have or may develop health care beliefs which are in conflict with those of parents or professionals, when to seek support and where to find legal and ethical guidelines to support their work (Z2)</p> <p>begin to understand that young people may have or may develop health care beliefs which are in conflict with those of parents or professionals, and know where to find legal and ethical guidelines to support their work (Z2)</p> <p>when to seek support and where to find legal and ethical guidelines to support their work (Z2)</p> <p>have an open minded approach to equality and diversity</p>	<p>Be aware of the different cultural and religious beliefs held by the local population which impact on attitudes to health and sickness in children and begin to develop strategies to manage relationships where these beliefs might cause conflict (Z1)</p> <p>understand that young people may have or may develop health care beliefs which are in conflict with those of parents or professionals, when to seek support and where to find legal and ethical guidelines to support their work</p> <p>understand the importance of an open minded approach to equality and diversity and follow this in their practice</p>	<p>understand the importance of cultural diversity and the difficulties where religious and cultural beliefs that parents might hold about the treatment of their children are in conflict, with good medical practice and know where to find legal and ethical guidelines to support your management or view of the situation</p> <p>have developed strategies to manage relationships where health care beliefs might cause conflict</p> <p>know the legal and ethical guidelines to support their work and where to find more information when required</p> <p>adopt an open-minded approach to equality and diversity in their practice and recognise these issues with complex clinical situations</p> <p>awareness of religious and cultural diversity and beliefs in counselling children and families regarding end of life care</p>
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**Competencies**

<p>understand the national and contribute to local initiatives aimed at reducing inequalities in child health and well-being</p>
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**MRCPC, CBD, portfolio**



**Maintaining Good Medical Practice**

Knowledge, Skills and Performance

**Assessment Standard 22**

<p><b>Level 1 (ST1-3)</b> knowledge of the law regarding paediatric practice</p>	<p><b>Level 2 (ST4-5)</b> knowledge of the law regarding death, data protection, confidentiality and consent in paediatrics</p>	<p><b>Level 3 (ST6-8)</b> detailed knowledge of the law regarding death, data protection, confidentiality and consent in paediatrics</p>
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**Standard 22**

**Assessments**

Trainees will:

know the law with regard to consent and confidentiality, in children, young people and adolescents and follow the relevant legal principles in practice

know the law with regard to consent to treatment and the right to refuse treatment, and be aware of variability in Scotland, Wales and Northern Ireland, continuing changes in the law and its interpretation.

know and follow key legal and ethical guidelines relating to consent to treatment and the right to refuse treatment, confidentiality, and be aware of variability in Scotland, Wales and Northern Ireland, continuing changes in the law and its interpretation.

the legal and ethical guidelines to support their work and where to find more information when required

**Competencies**

understand the importance of post-mortem investigations

understand and follow the principles and legal aspects of consent and confidentiality

know about the role of the Caldicott guardian and follow the principles of the data protection act and confidentiality

be able to prepare and discuss with parents, carers and other professionals "Do not attempt resuscitation" policies as appropriate, taking due account of the Human Rights Act (1998), ensuring that the best interests of the child are held paramount at all times  
be able to seek consent for post-mortem examinations and communicate effectively with the Coroner

MRCPC, CBD, Portfolio





**Assessment Standards 23-25**

**Teaching, Training, Assessing, Appraising**  
 Communication, partnership and teamwork, Knowledge, skills and performance, Safety and Quality

This section details the competences to be gained in the areas of teaching and research methodology, purpose of assessment and feedback and contributing to appraisal systems.

For more information on assessment please see the [assessment blueprint](#)

<b>23</b> an understanding of effective teaching in paediatrics	<b>Level 1 (ST1-3)</b>	<b>Level 2 (ST4-5)</b> skills in effective teaching in paediatrics	<b>Level 3 (ST6-8)</b> a commitment to effective teaching and training of colleagues working in different contexts in the care of children and young people
<b>24</b> a positive approach to receiving mentoring and educational supervision	a commitment to providing positive experiences of mentoring and educational supervision	an understanding of research methods and methodology and an involvement in research activities and publications	effective skills in the training, supervision and assessment of a wide range of colleagues working in the care of children and young people
<b>25</b> an understanding of the need for an ethical and rigorous approach to research in paediatrics			understanding and application of complex methodological approaches in research in paediatrics

**Teaching, Training, Assessing, Appraising**  
 Knowledge, Skills and Performance, Quality and Safety

**Assessment Standard 23**

<b>Standard 23</b> an understanding of effective teaching in paediatrics	<b>Level 1 (ST1-3)</b>	<b>Level 2 (ST4-5)</b> skills in effective teaching in paediatrics	<b>Level 3 (ST6-8)</b> a commitment to effective teaching and training of colleagues who are working in different contexts in the care of children and young people
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**Assessments**

**Trainees will:**

begin to develop a sound understanding and a commitment to the principles and practice of effective teaching and learning in clinical contexts

have developed some effective teaching and learning skills in a range of clinical contexts

Demonstrate a range of effective teaching and learning skills in a range of clinical contexts

**Competences**

participate in departmental teaching programmes

be able to supervise and teach the relevance of appropriate investigations and the safe conduct of practical procedures

to be organised and lead a range of learning sessions

to be able to demonstrate and explain to trainees strategies used to conduct effective consultations with babies, young children, adolescents and their families

be able to elicit and act upon feedback on content and presentation of teaching

Be able to participate in teaching and research topics within their specialty and in related areas

**MRCPCH, MSF, Portfolio**

**Teaching, Training, Assessing, Appraising**

Knowledge, Skills and Performance

**Assessment Standard 25**

Knowledge, Skills and Performance

Level 1 (ST1-3) an understanding of the need for an ethical and rigorous approach to research in paediatrics	Level 2 (ST4-5) an understanding of research methods and methodology and an involvement in research activities and publications	Level 3 (ST6-8) understanding and application of complex methodological approaches in research in paediatrics
<p><b>Standard 25</b></p> <p><b>Trainees will:</b></p> <ul style="list-style-type: none"> <li>an understanding of the need for an ethical and rigorous approach to research in paediatrics</li> <li>understand their responsibilities to conduct research with honesty and integrity, seeking ethical approval where appropriate and safeguarding the interests of patients</li> <li>begin to understand basic concepts in research design and methodology including the difference types of research studies</li> <li>understand the difference between research and audit</li> <li>understand the steps involved in planning a research project</li> <li>understand when to use simple statistical tests and their interpretation</li> <li>begin to develop critical appraisal skills and to apply to their reading of the literature, including systematic reviews of their own teaching and the teaching of others</li> </ul>	<ul style="list-style-type: none"> <li>an understanding of research methods and methodology</li> <li>Understand the process of the Ethical Committee approval for research studies</li> <li>show that they have understood the basic approach to study design</li> <li>be able to plan a research project effectively under supervision</li> <li>demonstrate an understanding of when to use more complex statistical tests and how to interpret significance</li> <li>have developed critical appraisal skills and can show how to apply these to their reading of the literature, including systematic reviews, reviews of their own teaching and the teaching of others</li> </ul>	<ul style="list-style-type: none"> <li>understanding and application of statistical methods and presentation for peer review and publication</li> <li>conduct research with honesty and integrity, seeking ethical approval where appropriate and safeguarding the interests of patients</li> <li>understand the techniques used in epidemiological studies</li> <li>understand the difference between population assessments and unit-based studies and be able to evaluate outcomes for both</li> <li>know about and participate in clinical and research special interest groups relevant to their speciality</li> <li>know how relative and absolute risks are derived and the meaning of the terms predictive value, sensitivity and specificity in relation to diagnostic tests</li> <li>demonstrate an understanding of Good Clinical Practice for all aspects of the conduct of clinical trials</li> </ul>
<b>Competencies</b>		
MRCPCH, MSF, Portfolio		

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**Teaching, Training, Assessing, Appraising**

Communication, partnership and teamwork, Knowledge, Skills and Performance, Quality and Safety

**Assessment Standard 24**

Communication, partnership and teamwork, Knowledge, Skills and Performance, Quality and Safety

Level 1 (ST1-3) a positive approach to receiving mentoring and educational supervision	Level 2 (ST4-5) a commitment to providing positive experiences of mentoring and supervision	Level 3 (ST6-8) effective skills in the training, supervision and assessment of a wide range of colleagues working in the care of children and young people
<p><b>Standard 24</b></p> <p><b>Trainees will:</b></p> <ul style="list-style-type: none"> <li>understand the importance of a positive and constructive approach to mentoring and supervision</li> <li>show a commitment to their continuing professional development and respond positively to requests for enquiries or critical incident reports and to outcomes of reviews, assessments and appraisals of their performance</li> <li>show honesty and integrity when contributing to peer reviews of colleagues, in teaching and research</li> </ul>	<ul style="list-style-type: none"> <li>understand the importance of a positive and constructive approach to mentoring, when giving guidance, support, feedback to trainees under their supervision</li> <li>have developed a reflective approach of their experiences of being a trainee in the past and ensure positive experiences for trainees under their clinical supervision</li> <li>be able to assess accurately the levels of support and supervision required by different members of the team they clinically supervise</li> <li>contribute to the training of medical students and post graduate trainees and other professionals such as nurses, physiotherapists, dieticians and others outside their speciality such as teachers and social workers</li> </ul>	<ul style="list-style-type: none"> <li>take responsibility for the training, supervision and assessment of medical students and trainees and other professionals such as nurses, physiotherapists, dieticians and others outside their speciality such as teachers and social workers</li> <li>be able to identify learning needs in a wide range of professionals and build on this in their teaching</li> <li>be able to supervise nurses and careers in the technique of collecting urine samples from children suitable for bacteriological investigation</li> </ul>
<b>Competencies</b>		
MSF, Portfolio		

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to be able to write a critical account of clinical practices showing that they can deal with complex issues systematically and creatively and that when necessary they can write in line with conventions for academic papers	demonstrate an understanding of how to perform and interpret systematic reviews how they differ from narrative reviews and understand the principles of meta-analysis
demonstrate an understanding of how bias and confounding variables may affect the conclusions of clinical research studies	demonstrate an understanding of the role of the ethics committees for clinical studies and the process of ethics applications be able to evaluate scientific publications critically and to search the medical scientific literature using electronic databases, including Embase that focuses on medicines know about the criteria for judging papers including experimental design and analysis understand the source of bias including conflicts of interest understand the nature and ethics of peer review

MRCPC, MSF, Portfolio

<p><b>Relationships with Patients</b> Communication, partnership and teamwork</p> <p>This section covers the promotion of effective communication with children, young people and their families/carers.</p> <p>For more information on assessment please see the <a href="#">assessment blueprint</a></p>	<p><b>Assessment Standards 26-28</b></p>
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<p><b>Level 1 (ST1-3)</b> 26 an understanding of effective communication and interpersonal skills with children of all ages</p> <p>27 empathy and sensitivity and skills in engaging the trust of and consent from children and their families</p> <p>28 understanding of listening skills and basic skills in giving information and advice to young people and their families</p>	<p><b>Level 2 (ST4-5)</b> a commitment to effective communication and interpersonal skills with children of all ages</p> <p>improving skills in building relationships of trust with children and their families</p> <p>increasing confidence in giving advice to young people and their families</p>	<p><b>Level 3 (ST6-8)</b> effective strategies to engage children in consultations and in the management of their care</p> <p>effective skills in conveying and discussing difficult information, including death, bereavement, with young people and their families</p> <p>effective skills in giving information and advice to young people and their families in common and complex cases</p>
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**Relationships with Patients**

Communication, partnership and teamwork. Maintaining Trust

**Assessment Standard 26**

<p><b>Level 1 (S11-3)</b> an understanding of effective communication and interpersonal skills with children of all ages</p>	<p><b>Level 2 (S14-5)</b> a commitment to effective communication and interpersonal skills with children of all ages</p>	<p><b>Level 3 (S16-8)</b> effective strategies to engage children in consultations and in the management of their care</p>
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Standard 26

Assessments

Trainees will:

<p>have understood the need for and begun to develop effective communication skills, specific to their work with babies, children, young people and their families</p>	<p>continuing to develop a wide range of effective communication skills specific to their work with children, young people and their families</p>	<p>understand the importance of directing communications to the baby, child or young persons as well as to parents and carers</p>
<p>know where to find assistance in the case where a child or family member may not speak English</p>	<p>have developed strategies to respond appropriately and where to find assistance in the cases where a child or family member may not speak English or where there is an impairment such as hearing loss that may affect understanding</p>	<p>have developed a wide range of effective age-appropriate communication skills specific to their work with babies, children, young people and their families</p>
<p>have understood the need to respond to babies, disabled children or young people who may not be able to express themselves verbally and who might be in pain or distress</p>	<p>demonstrate an ability to respond to babies, disabled children or young people who may not be able to express themselves verbally, including those who might be in pain or distress</p>	<p>be able to respond appropriately and know cases where to find assistance in cases where a child or family member may not speak English or where there is a sensory impairment that may affect understanding</p>
<p>understand the need to develop strategies for careful and appropriate use of language in difficult and challenging circumstances</p>	<p>begin to develop strategies for careful and appropriate use of language in difficult and challenging circumstances</p>	<p>have effective strategies for careful and appropriate use of language in difficult and challenging circumstances</p>
<p>have strong communication and interpersonal skills to enable them to work effectively with patients and their families, and colleagues in multi-professional and multi-discipline teams</p>	<p>have begun to develop the confidence to be firm and diplomatic in difficult situations, dealing with emotional parents</p>	<p>have developed skills to establish a child's or young person's and family's understanding of a situation, clarifying this as appropriate and to build on this effectively in discussion about the condition and its management</p>
<p>be able to demonstrate courtesy to families, colleagues and members of the multi-disciplinary team at all times</p>	<p>have begun to develop the confidence to be firm and diplomatic in difficult situations, dealing with emotional parents</p>	<p>have the confidence to be firm and diplomatic in difficult situations, for example when dealing with emotional parents</p>

Competencies

MRCPC, MSF, MinicEx

<p>experience of how to communicate diagnosis and progress effectively to children, where appropriate, young people and their families</p>	<p>have developed appropriate responses and empathy for children, young people and their families experiencing difficulty and distress, for example, in the case of an angry or dissatisfied relative</p>	<p>have developed a range of approaches to communicating the breadth of diagnostic possibilities and other clinical information to children, young people and their families so that consent is always informed and the plan and progress of treatment is understood</p>
<p>have begun to develop appropriate responses and empathy for children, young people and their families experiencing difficulty and distress, for example, in the case of a child who is dying</p>	<p>know the procedures and guidelines to support the management of conflict in relationships with children, young people and their families</p>	<p>be able to work effectively with young people who may have or may develop health care beliefs that are in conflict with those of parents or professionals</p>
		<p>understand the importance of seeing the views of young people to inform decisions about their individual care and to encourage their participation in their care</p>
		<p>encourage children and young people to participate in their individual care and in development of services using expert resources appropriately</p>
		<p>effective skills in working with children, young people and families to achieve concordance in planning management and treatment, enabling children and young people to maintain control over their illness and its management</p>
		<p>be able to recognise, interpret correctly and respond to verbal and non-verbal cues from children, young people and parents</p>
		<p>have developed observation skills to support interpretation of developmental levels and possible signs when they are unable to cooperate with formal assessments</p>
		<p>be able to counsel parents about serious conditions and abnormalities within their area of expertise</p>





be able to discuss the indications, benefits and adverse events of a procedure to patients, relatives and carers that will allow informed consent for procedure which the doctor is competent themselves to perform

have experience of how to communicate a diagnosis and prognosis effectively to children, where appropriate, young people and their families

have developed a range of language strategies such as the use of metaphor or images which relate to everyday life, to explain clearly to a child or young person and their family, their symptoms, condition or treatments and their feelings/behaviour

be able to explain the role of other professionals and agencies to children, young people and their families

to be able to demonstrate to trainees how to communicate a diagnosis and prognosis effectively to children, young people, and their families

**Relationships with Patients**  
Communication, partnership and teamwork. Maintaining trust.

<p><b>Level 1 (ST1-3)</b> empathy and sensitivity and skills in engaging the trust of and consent from children and their families</p>	<p><b>Level 2 (ST4-5)</b> improving skills in building relationships of trust with children and their families</p>	<p><b>Level 3 (ST6-8)</b> effective skills in conveying and discussing difficult information, including death, bereavement, with young people and their families</p>
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**Trainees will:**

- Understand the need for compassion, empathy and respect for children, young people and their families
- Know the local and national guidelines for obtaining informed consent
- Know the national and local guidance for obtaining consent for post-mortem
- Understand the different factors that have an influence on the patient's journey

show compassion, empathy and respect for children, young people and their families

Practice with compassion, empathy and respect for children, young people and their families and act as a role model to others

have developed credibility in their relationships with children, young people and their families and with colleagues through their knowledge and skills and experience in clinical practice and in their ability to work independently

**Competencies**

keep an open mind with regard to health-care beliefs, such as complementary and alternative therapies, and to respect the patient, if not the therapy, as long as it is not harmful to the patient

- Understand the factors that affect a child's level of anxiety about illness, treatment or examination
- Have begun to develop strategies to manage a child's anxieties and personal anxieties
- Recognise the impact on parents and the rest of the family of acute or chronic illness, hospitalisation or the death of a child

have developed strategies to manage a child's or young person's anxiety and personal anxieties

have developed strategies to manage a child's or young person's anxiety and personal anxieties  
be sensitive to the effects of stigma on children and families in relation to medical conditions

Curriculum for Pediatric Nephrology		Assessment Standard 28	
Relationships with Patients Communication, partnership and teamwork, Maintaining trust		Assessments	
<p><b>Standard 28</b></p> <p><b>Level 1 (ST1-3)</b> understanding of listening skills and basic skills in giving information and advice to young people and their families</p>	<p><b>Level 2 (ST4-5)</b> increasing confidence in giving advice to young people and their families</p>	<p><b>Level 3 (ST6-8)</b> effective skills in giving information and advice to young people and their families in common and complex cases</p>	
	<p><b>Competencies</b></p> <p>Trainees will:</p> <ul style="list-style-type: none"> <li>have begun to develop active listening skills with children and young people and understood the need to respect their views</li> <li>show patience and sensitivity in their communications with children and their families and a particular ability to explore their individual perspectives of a problem</li> <li>have developed active listening skills with children and young people and understood the need to respect their views in accordance with their age and maturity and to respond appropriately, where, for example, a child is felt to be vulnerable</li> <li>have developed a keen self awareness so that they know when they are ready to take on new challenges such as breaking news to a family</li> <li>know how to access such national resources as the Contact a Family (CAF) directory and the internet as well as local sources to provide information to children and families about support groups</li> <li>know about agencies both statutory and voluntary that can provide support to children and their families in coping with.</li> </ul>	<p><b>Competencies</b></p> <p>Trainees will:</p> <ul style="list-style-type: none"> <li>have effective active listening skills in consultations with children and young people and understand the need to respect their views in accordance with their age and maturity and to respond appropriately where for example a child or young person is felt to be vulnerable</li> <li>be able to convey and share effectively difficult or bad news, including end of life issues, with children, young people, parents or carers and help them to understand any choices they have or decisions to be made about ongoing management</li> <li>be able to recognise indicators of stress or mental health problems in family members and communicate appropriately with relevant professionals</li> <li>be able to liaise with parent support and self-help groups when necessary</li> <li>be able to advise and provide genetic instructions as appropriate for the renal disease</li> </ul>	<p>be able to develop care pathways for the investigation and management of urinary tract infection at local and regional level</p> <p>be able to counsel patients about renal replacement therapy, the benefits and risks of haemodialysis and peritoneal dialysis</p>
		MRCPC, MSF, MinicEx	





**Assessment Standards 29- 33**

**Working with Colleagues**  
Communication, partnership and teamwork, Safety and Quality, Knowledge, Skills and Performance

This section details the appropriate attitudes and behaviours that help deal with complex situations and to work effectively in team work and as a leader within a healthcare team. Much of the medical leadership framework is addressed within this section looking at the practice of leadership.

For more information on assessment please see the assessment blueprint.

	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
<b>29</b>	Effective Communication and interpersonal skills with colleagues	Skills in ensuring effective relationships with between colleagues	Positive and constructive relationships from a wide range of professional contexts
<b>30</b>	Professional respect for the contribution of colleagues in a range of roles in paediatric practice	Increasing confidence in team-work and the ability to collaborate with a range of external agencies about the needs of children	A commitment to effective multi-agency and multi-disciplinary team working for the care of children
<b>31</b>	Effective time management skills	Effective leadership and management skills in clinical and non-clinical settings	Effective managerial skills in taking on a positive managerial role to support effective service provision
<b>32</b>	Effective handover, referral and discharge procedures in paediatrics	Effective skills in ensuring handover, referral and discharge procedures in paediatrics	Effective leadership skills in the organisation of paediatric team-working and effective handover
<b>33</b>	An understanding of the effects of local, national and international policies on their work and on the health of children	Experience and understanding of working within international, national and local legal structures and organisations involved in the care of children	Effective skills in promoting clinical practice through engagement with local, national and international organisations involved in the care of children

**Assessment Standard 29**

**Working with Colleagues**  
Communication, partnership and teamwork

**Level 1 (ST1-3)**  
Effective Communication and interpersonal skills with colleagues

**Level 2 (ST4-5)**  
Skills in ensuring effective relationships with between colleagues

**Level 3 (ST6-8)**  
Positive and constructive relationships from a wide range of professional contexts

**Standard 29**

**Competencies**

Trainees will:

- Understand the need to engage effectively with professionals in other disciplines and agencies from the voluntary sector
- Understand the need for open and non-discriminatory professional working relationships with colleagues
- Recognise the needs for timely senior support in serious clinical situations and be effective in requesting this

**Assessments**

MSF, Mini Cex

Have developed effective professional networks to support clinical practice and other activities, including research, education and management

Ensure open and non-discriminatory professional working relationships with colleagues and be aware of the need to prevent bullying and harassment

Be able to liaise effectively with consultants and senior doctors from a range of specialties to optimise management of a child with acute serious illness

be able to advise other clinicians on the diagnosis and management of fluid and electrolyte disturbance



Curriculum for Paediatric Neurology  
**Working with Colleagues**  
 Communication, partnership and teamwork

**Assessment Standard 31**

<p><b>Level 1 (ST1-3)</b>                  Effective time management skills</p>	<p><b>Level 2 (ST4-5)</b>                  Effective leadership and management skills in clinical and non-clinical settings</p>	<p><b>Level 3 (ST6-8)</b>                  Effective managerial skills in taking on a positive managerial role to support effective service provision</p>
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**Assessments**

<p><b>Trainers will:</b></p> <p>Have effective time management skills in their professional roles</p> <p>be able to prioritise tasks in personal and professional contexts for example in medical emergencies</p>	<p>have developed effective organisational skills for themselves and for others in prioritisation and delegation</p> <p>be able to think clearly and to prioritise in clinical decision making and practice</p> <p>be able to delegate duties appropriately to colleagues whom they supervise</p> <p>have developed confidence to make decisions within a team</p> <p>be able to take on a leadership role in multi-disciplinary teams when appropriate, for example at a discharge meeting and know when it may be inappropriate to do so</p> <p>have developed some leadership skills for example in communicating the urgency of action in an emergency while enabling teams to remain calm</p> <p>Communicate effectively in the face of clinical uncertainty</p> <p>have developed effective problem solving strategies in clinical and management contexts, for example where there is a shortage of beds or medical staff or other resource</p>	<p>demonstrate effective leadership skills in clinical situations, through their ability to organise, prioritise and delegate and be able to help others develop these skills</p> <p>demonstrate safe and effective leadership through organisation of team work and prioritising appropriately</p> <p>be confident to make decisions within a team and be aware of their on other team members</p> <p>take on a leadership role in multi-disciplinary teams by representing the health needs of a child, young person and their family at a discharge meeting and know when it maybe inappropriate to do so</p> <p>Communicate effectively in the face of clinical uncertainty in acute, serious or complex illness</p>
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**Competencies**

MSF, Mini Cex

Curriculum for Paediatric Neurology  
**Working with Colleagues**  
 Communication, partnership and teamwork

**Assessment Standard 30**

<p><b>Level 1 (ST1-3)</b>                  Professional respect for the contribution of colleagues in a range of roles in paediatric practice</p>	<p><b>Level 2 (ST4-5)</b>                  Increasing confidence in team-work and the ability to collaborate with a range of external agencies about the needs of children</p>	<p><b>Level 3 (ST6-8)</b>                  A commitment to effective multi-agency and multi-disciplinary team working for the care of children</p>
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**Assessments**

<p><b>Trainers will:</b></p> <p>Demonstrate the ability to work effectively in multi-disciplinary teams and with colleagues from a wide range of groups</p> <p>Have the ability to take on offering and complementary roles within the different communities of practice within which they work, in hospitals, general practice and in the community, in social services and schools</p> <p>Understand the importance of effective team work with colleagues in multi-disciplinary teams to ensure consistency and continuity and a robust approach to the treatment and care of children and young people</p>	<p>have experience of working with multi-agency teams for example with social workers and teachers and have developed an awareness of their own role within the team and of the skills and expertise of others</p> <p>Be able to liaise effectively with colleagues in multi-agency teams such as education and social services</p> <p>recognise their own working preference and how these may impact on team working</p>	<p>be able to work effectively in multi-agency teams, for example, with social workers and teachers and have developed an awareness of their role within the team and of the skills and expertise of others</p> <p>be able to interact effectively with professionals in other disciplines and agencies and from the voluntary sector</p> <p>be able to work effectively in multi-disciplinary teams and with colleagues from a wide range of professional groups</p> <p>recognise their own working preferences and accept different approaches of colleagues</p> <p>be aware of their role in the team and the impact in the team</p> <p>work with stakeholders so that a client/ patient-centred service is created and sustained</p> <p>be able to provide neurological support to other paediatric services and primary care</p> <p>be able to work within the full multi-disciplinary team of the tertiary neurology department, including liaison with dietitians, specialist nurses, transplant and vascular surgeons, transplant co-ordinators, interventional radiologists</p>
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**Competencies**

MSF, Mini Cex





be able to recognise the effective qualities of management of meetings, such as having clear action points and achievable and/or recognisable outcomes

be able to provide specialist support to hospital and community based paediatric services including primary care	MSF, Mini Cex
Have awareness of non-clinical managerial skills important to effective running and change in a paediatric dept e.g. direction setting, influencing key people, communication strategies and resource management	
Demonstrate safe and effective leadership through the organisation of team work and prioritisation	

**Working with Colleagues**

Communication, partnership and teamwork. Knowledge, Skills and Performance, Safety and Quality

**Assessment Standard 132**

Level 1 (ST1-3) Effective handover, referral and discharge procedures in paediatrics	Level 2 (ST4-5) Effective skills in ensuring handover, referral and discharge procedures in paediatrics	Level 3 (ST6-8) Effective leadership skills in the organisation of paediatric team-working and effective handover
<p><b>Trainers will:</b></p> <p>Ensure effective hand-over procedures and clear communications with colleagues to ensure the continuing good medical care of patients</p> <p>Ensure the effective discharge procedures to their family, community, social and primary care services</p>	<p>Manage effective hand-over procedures and clear communications with colleagues to ensure the continuing good medical care of patients</p> <p>Supervise handover of results that still need to be obtained at the end of shifts</p> <p>Have developed confidence to make decisions within a team</p> <p>Know the objectives of a paediatric follow up</p>	<p>be able to lead handover effectively and in a timely way in difficult circumstances</p> <p>Be able to take on a leadership role in a multi-disciplinary team when appropriate for example representing the health needs of a child, young person and their family at a discharge meeting and know when it maybe inappropriate to do so</p> <p>be able to plan transitional care and referral of the young person to clinical genetics at an appropriate time</p> <p>know how to refer appropriately to community services before discharge and begin to participate in the follow up of those at risk</p> <p>be able to refer families to appropriate resources for the management of nephro-urological conditions</p>
<b>Competences</b>		
<b>SAL, Portfolio</b>		

**Working with Colleagues**

Communication, partnership and teamwork, Safety and Quality

**Assessment Standard 33**

**Level 1 (ST1-3)**  
An understanding of the effects of local, national and international policies on their work and on the health of children

**Level 2 (ST4-5)**  
Experience and understanding of working within international, national and local legal structures and organisations involved in the care of children

**Level 3 (ST6-8)**  
Effective skills in promoting clinical practice through engagement with local, national and international organisations involved in the care of children

Assessments

Trainees will:

understand how national and local policy initiatives impact on medical practice and social health and well-being  
begin to develop an understanding of national service frameworks and managed clinical networks within paediatrics, the role of NICE, the role of RCPCH, PNEtB and the GMC in professional life and professional regulation

the structure of large NHS organisations including management structures, governance, policy and procedures relevant to the care of children  
some experience of working within an organisation attending different committees and meeting

how to respond appropriately to health service targets and be able to participate in the development of services  
know about agencies both statutory and voluntary that can provide general and conditional specific support to children, adolescents and their families in coping with their health problems  
develop personal skills to be able to participate effectively in local management meetings  
knowledge and understanding of systems of management and decision making in health care organisations  
have gained an understanding of national and local regulatory bodies particularly those involved in standards of professional behaviour, clinical practice and education, training and assessment  
understand the relationship between local health, educational and social service provision  
be able to work effectively in managed clinical networks

MRCPC, MSF, MSF, CBD, Portfolio

Competencies

be aware of shared care protocols and the role of out-reach clinics

begin to work in managed clinical networks and in out-reach clinics  
participate and contribute to organisational decision making process

have some familiarity with the roles of allied health professionals and other agencies in the support of children and families  
be aware of the impact of the European Union on child health and healthcare systems

know how to access and understand the roles of allied health professionals and other agencies in the support of children and families

be able to develop care pathways for the investigation and management of urinary tract infection at regional and local level  
know the role of the Renal Registry, UK Transplant, the Renal Association, British Association for Paediatric Nephrology and other related professional organisations

MRCPC, MSF, CBD, Portfolio





**Assessment Standards 34- 36**

**Probity**  
Maintaining Trust, Safety and Quality

This section details the high standards of care and professional behaviour within paediatrics and the medical profession as a whole.

For more information on assessment please see the assessment table below.

Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
<b>34 Ethical personal and professional practice</b>	<b>Sound ethical personal and professional practice</b>	<b>Exemplary professional conduct so as to act as a role model to others</b>
Reliability and responsibility in ensuring their accessibility to colleagues and patients and their families	Continued responsibility and accessibility to colleagues, patients and their families	Responsibility for ensuring their own reliability and accessibility and that of others in their team
An understanding of the importance of self-awareness and a responsible approach to personal health, stress and well-being	A consistent approach to personal health, stress and well-being	Effective skills in ensuring their own responsible approach to personal health, stress and well-being and that of others

<b>Assessment Standard 34</b>		
Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
<b>Ethical personal and professional practice</b>	<b>Sound ethical personal and professional practice</b>	<b>Exemplary professional conduct so as to act as a role model to others</b>
Understand the limitations of their competence, in their clinical practice and in their relationships with patients and know where and when to ask for help, support and supervision	Understand the limitations of their competence at their stage of training and be willing to seek help in managing sensitive and complex situations	Understand the limits of their competence, particularly in stressful situations and be willing to seek help in managing sensitive and complex situations
Know when and where to ask for help, support and supervision		
Understand the need for honesty and know the procedures to follow where there is concern about the professional conduct of a colleague who might be putting the health of a patient at risk	act with honesty and know the procedures to follow where there is concern about the professional conduct of a colleague who might be putting the health of a patient at risk	
Understand the need for honesty and know the procedures to follow where there is concern about the professional conduct of a colleague who might be putting the health of a patient at risk		
be aware of the ways in which their personal experiences, values and attitudes might affect their professional practice and know when to refer to another doctor		be open about sharing and reviewing their practice with others
		be able to handle enquiries from the press and other media effectively

**Competencies**

MRCPC, MSF, MinicEx, Portfolio

**Proficiency**  
Maintaining Trust

**Assessment Standard 35**

<b>Level 1 (ST1-3)</b> Reliability and responsibility in ensuring their accessibility to colleagues and patients and their families	<b>Level 2 (ST4-5)</b> Continued responsibility and accessibility to colleagues, patients and their families	<b>Level 3 (ST6-8)</b> Responsibility for ensuring their own reliability and accessibility and that of others in their team
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**Trainees will:**

demonstrate a commitment to the highest standards of care and ethical and professional behaviour within their speciality and with the medical profession as a whole

recognise and support colleagues who may be under pressure

demonstrate responsibility for ensuring reliability and accessibility of both themselves and others in the team

**Competencies**

MSF, Portfolio

Assessments

**Proficiency**  
Maintaining Trust, Safety and Quality

**Assessment Standard 36**

<b>Level 1 (ST1-3)</b> An understanding of the importance of self-awareness and a responsible approach to personal health, stress and well-being	<b>Level 2 (ST4-5)</b> A consistent approach to personal health, stress and well-being	<b>Level 3 (ST6-8)</b> Effective skills in ensuring their own responsible approach to personal health, stress and well being and that of others
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**Trainees will:**

show a commitment to continuing professional practice and to respond positively to requests for enquiries and incident reports and to outcomes of reviews, assessments and appraisals of their performance

take responsibility for their own obligation for health and well-being, safety and welfare issues

show an understanding of the importance of ensuring the healthy balance between professional and domestic priorities

demonstrate a responsibility for their own health in so far as it might affect the welfare of safety of patients

**Competencies**

MSF, Portfolio

effective skills in ensuring others in their team approach their health, stress and well-being responsibly

Assessments





	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
<b>Urinary tract structure</b>			
Know the importance of genital abnormalities, ambiguous genitalia and intersex, and their associations with renal and other diseases			✓
Be able to lead and co-ordinate multi-disciplinary teams including radiologists, urodynamic nurses, urological and plastic surgeons, obstetricians and geneticists			✓

	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
<b>Urinary tract infection</b>			
Know the epidemiology and microbiology of urinary tract infection (UTI) and the role of host defense mechanisms			✓
Understand the clinical signs and symptoms of UTI in different ages of children			✓
Know the appropriate antimicrobials to treat UTI			✓
Understand the management of vesicoureteric reflux (VUR), reflux nephropathy, and the secondary progression of renal damage			✓
Be able to investigate and manage UTI in different age groups appropriately			✓
Be able to counsel families on the inheritable nature of VUR			✓

**Section 3**

**Sub-specialty Specific Conditions in Paediatric Nephrology**

	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
<b>Disorders of micturition</b>			
Know the physiology of normal micturition and understand the normal acquisition of bladder control			✓
Know the causes of disturbed micturition			✓
Pathophysiology of the neuropathic bladder			✓
Understand the role of urodynamics in the investigation of disturbed micturition			✓
Be able to interpret urodynamic studies, and instigate appropriate management			✓
Know the appropriate medical and surgical management of different types of bladder dysfunction			✓
Understand management strategies for enuresis including behavioural and pharmacological therapies			✓
Be able to lead and co-ordinate other professionals, including urodynamic staff, specialist nurses, urologists, neurologists, neurosurgeons, continence advisers and psycho-social support			✓

	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
<b>Haematuria and Proteinuria</b>			
Know the causes of, and appropriate investigations for, haematuria and proteinuria			✓
Understand glomerular and tubular handling of protein			✓
Be able to differentiate between pathological and physiological proteinuria, and develop a diagnostic care pathway			✓
Be able to lead and co-ordinate investigation and management of a child with haematuria and/or proteinuria, working with radiologists, urological surgeons, histologists and geneticists			✓

Curriculum for Pediatric Nephrology

**Glomerular disorders**

understand the aetiology, pathophysiology, genetic and immunological basis of glomerular disease	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
know the different forms of presentation, and clinic-pathological correlations			✓
understand the clinical course and prognosis of acute and chronic glomerular disease			✓
know the indications for therapy, e.g., immunosuppressive agents, cytotoxic drugs, plasmapheresis, and dialysis			✓
be able to diagnose and manage nephritic and nephrotic syndromes			✓

**Nephrotic syndrome**

know and understand the pathophysiology and genetics of nephrotic syndromes	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
be able to detect and manage the associated complications of the nephrotic state			✓
be able to investigate and manage the various forms of the nephrotic syndrome			✓

**Vasculitis**

know and understand that vasculitides presenting with renal disease may also affect other organ systems	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
know the appropriate use of tissue diagnosis from other organs including skin			✓
be able to lead and co-ordinate the investigation and management to involve other specialities including neurology, ophthalmology and rheumatology			✓
be able to prescribe appropriately specific therapies including plasmapheresis			✓

**Haemolytic uraemic syndromes**

know and understand the disorders that comprise the haemolytic uraemic syndromes (HUS), their aetiology, genetics, multi-system clinical manifestation, pathogenesis and outcome	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
know the epidemiology, public health aspects of verocytotoxin-producing Escherichia coli infection			✓
be able to apply specific therapies in the management of the haemolytic uraemic syndromes, including plasma infusions and plasma exchange			✓
work with other specialities including paediatric intensive care surgery and neurology			✓

**Interstitial nephritis**

know the causes of interstitial nephritis and tubulointerstitial disease, and the relationship to systemic conditions	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
liaise with histopathology, toxicology, microbiology and ophthalmology departments			✓

**Cystic disease**

know and understand the causes, clinical manifestations and outcomes of renal cystic diseases	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
understand the modes of inheritance and methods of screening			✓
be able to investigate and manage cystic kidney disease, including liaising with hepatologists and geneticists			✓

Curriculum for Pediatric Nephrology

**Nephrolithiasis and nephrocalcinosis**

know and understand the aetiology of renal stone formation and nephrocalcinosis, including underlying metabolic and genetic disorders	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
understand the acute and chronic medical and surgical management of renal stones including lithotripsy			✓
be able to investigate and manage the child with renal stones and nephrocalcinosis, in conjunction with radiologists and urologists			✓

**Tubular disorders**

know and understand the different causes and clinical presentations of primary and secondary tubular disorders	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
investigate and manage tubular disorders with particular emphasis on the correction of acid base and electrolyte disturbance			✓
liaise with other specialities including metabolic medicine and geneticists			✓

**Hypertension**

be able to define hypertension according to normal blood pressure data in children	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
understand the techniques of blood pressure measurement, their advantages and limitations			✓
know the renal and non-renal diagnoses implicated in hypertension in different age groups, and the mechanisms causing primary (essential) and secondary hypertension			✓
be able to investigate and manage acute and chronic hypertension, hypertensive crises, encephalopathy and cardiac failure			✓
be able to liaise with professionals in other specialities, including interventional radiology, ophthalmology, cardiology, and vascular surgery			✓





**RENAL FAILURE**

**Acute renal failure**

be able to investigate and manage the underlying cause of acute renal failure	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
understand the principles of dialysis and filtration and know the indications for their application			✓
be able to assess and manage fluid and electrolyte disturbances, hypertension and nutrition			✓
be able to select and prescribe the appropriate dialysis modality, working with renal nurses, paediatric intensive care staff, interventional radiologists and surgeons			✓
be able to provide nephrological support in the management of patients with multi-organ failure or systemic disease			✓

**Chronic renal failure**

know and understand the presentation, clinical course and prognosis of diseases causing chronic renal failure	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
be able to investigate and manage chronic renal failure			✓
understand the pathophysiology of systemic complications, including bone disease and anaemia			✓
be able to assess the degree of renal failure, monitor its progression and investigate the appropriate renal replacement therapy			✓
be able to manage the effects of chronic renal failure including biochemical disturbance, renal bone disease and anaemia			✓
be able to assess and manage growth and nutrition, including the use of enteral feeding and growth hormone			✓
be able to identify and manage cardiovascular risk factors including hyperlipidaemia and hypertension			✓
be able to counsel children, young people and families on the diagnosis and implications of permanent kidney failure, including the need for dialysis and transplantation			✓

**DIALYSIS AND PLASMAPHERESIS**

**Hemodialysis**

know and understand the principles of haemodialysis and its comparison with other methods of dialysis	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
know and understand the various techniques for obtaining vascular access, and the complications of access and of dialysis itself			✓
be able to manage different forms of vascular access, and their complications, working with dialysis nurses, vascular surgeons and interventional radiologists			✓
be able to plan and prescribe haemodialysis and monitor its effects and adequacy			✓
be able to diagnose and manage the complications of haemodialysis			✓

**Peritoneal Dialysis**

know and understand the principles of peritoneal dialysis, the different available modalities and the advantages and disadvantages compared to haemodialysis	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
			✓

know and understand the surgical procedure of insertion of peritoneal dialysis catheters, and the complications of peritoneal dialysis access and of the dialysis itself	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
be able to diagnose and manage the complications of peritoneal dialysis, and of peritoneal dialysis access, working with dialysis nurses, and surgeons			✓
be able to plan and prescribe peritoneal dialysis and monitor its effects and adequacy			✓

**Plasmaphoresis**

understand the principles of plasmaphoresis, its indications, techniques and complications	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
be able to prescribe and manage plasmaphoresis, working with dialysis nurses, access surgeons and interventional radiologists, and other specialities including PICU staff and laboratory staff			✓
be able to assess the clinical response			✓

**TRANSPLANTATION**

**Pre-Transplantation**

understand the advantages and disadvantages of cadaveric, versus live-related donor transplantation, the advantages and disadvantages of pre-emptive transplantation, and how cadaveric donors are selected and organs obtained, and preserved	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
understand the principles of matching recipient and donor, the immunological basis of graft rejection and tolerance, the importance of blood group and HLA matching and donor-recipient cross matching			✓
understand what is involved in a transplant work-up, including working with transplant surgeons and co-ordinators, tissue typing laboratories and UK Transplant			✓
be able to assess the suitability of a patient for renal transplant including the statutory regulations			✓
be able to counsel the patient and family about the benefits and complications of transplantation			✓

**Transplantation**

understand the anatomy and basic surgical procedures involved in transplantation, their complications and treatment	Level 1 (ST1-3)	Level 2 (ST4-5)	Level 3 (ST6-8)
know the range of immuno-suppressives used in transplantation, their mechanisms of action, monitoring their benefits and side-effects			✓
be able to manage fluid and electrolyte balance and blood pressure in the post-operative transplant period, and adjudicate the medication required for a successful transplant			✓
be able to assess renal transplant function			✓



	Level 1 (S1-3)	Level 2 (S14-5)	Level 3 (S16-8)
understand the mechanisms of change in transplant function and identify their causes, including acute rejection and chronic allograft nephropathy			✓
know the recurrence rate of the original disease, and other complications pertaining to the original diagnosis and their management			✓
know the indications for and knowledge of the procedure of renal transplant biopsy			✓
know the effects and risks of immune-suppression			✓
be able to diagnose and manage acute and chronic rejection and disease recurrence			✓
be able to diagnose and manage infective and lympho-proliferative complications			✓
be aware of issues relating to concordance affecting graft survival			✓
be able to counsel patients with a failing graft and discuss future management on renal replacement therapy			✓

Section 4

Maintenance of specialty-specific competencies





	Level 1 (ST1-3)	Level 2 (ST4-5)
Have the knowledge and skills to be able to assess and initiate management of babies and children presenting with cardiologica disorders	✓	
Know the genetic and environmental factors in the aetiology of congenital heart disease	✓	
Be able to formulate a differential diagnosis	✓	
Be able to respond appropriately to cardiac arrest	✓	
Be able to select and interpret appropriate cardiologica investigations and know the indications for echocardiography	✓	
Understand the life threatening nature of some of these conditions and when to call for help	✓	
Know the possible cardiac complications of other system disorders	✓	
Know when referral for specialist paediatric cardiologica assessment for further management is appropriate	✓	
Be able to provide advanced life support and lead the team at cardiac arrest	✓	
Be able to identify common ECG abnormalities	✓	

**ACUTE PRESENTATIONS**

	Level 1 (ST1-3)	Level 2 (ST4-5)
<b>Cyanosis</b>	✓	
Know the normal fetal circulation and transitional changes after birth	✓	
Know the anatomy of the common causes of cyanotic heart disease	✓	
Be able to differentiate between cardiac and non-cardiac causes of cyanosis	✓	
Recognise when treatment is urgent	✓	
Be able to initiate emergency management	✓	
Be able to describe the clinical signs and investigations accurately and effectively with a cardiologist	✓	

**Heart failure, including cardiac conditions which present with shock**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Understand the causes of heart failure	✓	
Be able to initiate appropriate investigations and treatment	✓	

**Arrhythmia**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the causes of arrhythmias	✓	
Be able to recognise common dysrhythmias on ECG	✓	
Be able to initiate emergency treatment in arrhythmias such as tachycardia	✓	
Be able to initiate emergency treatment in arrhythmias such as paroxysmal supraventricular tachycardia	✓	

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know when prophylaxis against endocarditis is indicated	✓	
Know the causes of endocarditis	✓	
Be able to advise parents about prophylaxis against endocarditis	✓	
Be able to initiate appropriate investigations and treatment	✓	
Be able to recognise the possibility of endocarditis		✓

**OUTPATIENT PRESENTATIONS**

	Level 1 (ST1-3)	Level 2 (ST4-5)
<b>Heart murmur</b>	✓	
Know the causes of common heart murmurs and the haemodynamic reasons for them	✓	
Know about the effects of heart disease at school	✓	
Be able to interpret correctly heart sounds and added sounds	✓	
Be able to identify an innocent cardiac murmur	✓	
Be able to advise families appropriately about the effects of heart disease at school	✓	

**Hypertension**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know and understand the causes of hypertension	✓	
Be able to measure and interpret correctly blood pressure measurements at different ages	✓	
Recognise the importance of examining femoral pulses in all children	✓	

**Palpitations**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the cardiac and non cardiac causes of palpitations	✓	
Be able to initiate appropriate investigations	✓	

**Syncope**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the cardiac causes of syncope	✓	
Be able to initiate appropriate investigations including appropriate ECG analysis	✓	
Be able to differentiate syncope from seizures		✓

**Dermatology**

**GENERAL COMPETENCIES**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Be able to describe accurately any rash	✓	
Recognise and know when to refer common birthmarks and haemangiomas	✓	
Have the knowledge and skills to be able to recognise, investigate and manage common skin complaints	✓	
Know about the cutaneous and mucosal manifestations of systemic disease	✓	
Recognise the serious nature of some skin disorders or their associated conditions and know when to ask for help	✓	
Understand the principles of therapy for skin complaints	✓	
Be aware of the different potencies of topical steroids and of their side effects	✓	
Understand the impact of severe dermatological problems on children	✓	
Be aware of the common causes of hair loss and hypertrichosis	✓	
Know when consultation with other specialties is appropriate	✓	
Know the indications for and the procedure involved in skin biopsy	✓	
Know when to consult dermatology, ophthalmology and ENT specialists	✓	
Understand the different potencies of topical steroids and of their side effects		✓
Know the common causes of hair loss and hypertrichosis		✓

**Erythematous rash and fever**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the causes of fever and an erythematous rash	✓	
Be aware of rare but serious causes e.g. toxic shock syndrome	✓	
Be able to recognise Kawasaki syndrome and to institute appropriate treatment	✓	
Be aware of complications and know when to refer, for example, to a cardiologist		✓
Recognise and initiate management of rare but serious causes, e.g. toxic shock syndrome		✓

**OUTPATIENT PRESENTATIONS**

	Level 1 (ST1-3)	Level 2 (ST4-5)
<b>Eczema and seborrhoeic dermatitis</b>		
Know the principles of treating eczema	✓	
Be able to manage mild eczema and seborrhoeic dermatitis	✓	
Be able to advise parents about common problems such as cradle cap and nappy rash	✓	

**ACUTE PRESENTATIONS**

**Skin failure e.g. toxic epidermal necrolysis, staphylococcal scalded skin syndrome and epidermolysis bullosa**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the features and management of staphylococcal scalded skin syndrome	✓	
Be aware of the rarer causes of skin failure	✓	
Be aware of careful handling in blistered neonates in case of inherited skin fragility	✓	
Be able to assess and to start initial treatment promptly	✓	
Recognise when to consult dermatology and ophthalmology specialists		✓

**Skin infections**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the causal bacteria, features, complications and management of cellulitis including periorbital cellulitis	✓	
Know the features and management of infected eczema and eczema herpeticum	✓	
Recognise and be able to treat scabies, pediculosis, and common viral and fungal skin infections	✓	
Recognise the features of and manage infected eczema and eczema herpeticum		✓
Recognise when to consult ophthalmology and ENT specialists		✓

**Cutaneous drug reactions**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Be aware of the different patterns of drug reaction and of the common precipitants	✓	
Be able to assess mucosal involvement	✓	
Recognise serious drug reactions e.g. Stevens-Johnson syndrome	✓	





**GENERAL COMPETENCIES**

Have the knowledge and skills to be able to assess and initiate management of patients presenting with diabetes, growth or endocrine presentations in inpatient or outpatient settings	Level 1 (ST1-3)	Level 2 (ST4-5)
Be able to measure children accurately and to assess their growth using appropriate growth charts and taking into account parental stature and parental status	✓	
Be able to assess accurately pubertal stages of development	✓	
Know about changes to insulin and steroid therapy in children with diabetes and hypoadrenalism during acute illness or perioperatively	✓	
Understand the endocrine complications of other diseases	✓	

**ACUTE PRESENTATIONS**

**A child presents 'well' with diabetes mellitus**

Know the pathophysiology of diabetes mellitus	Level 1 (ST1-3)	Level 2 (ST4-5)
Recognise the early features of this presentation	✓	
Know the principles of diabetes management including commonly used insulin regimens	✓	
Know about the long term complications of diabetes and about ways to reduce the risks of these occurring	✓	
Be able to explain this condition to parents	✓	
Be able to advise with the children's diabetes team	✓	
Be able to give basic advice about diet and exercise	✓	

**Diabetic ketoacidosis**

Understand the pathophysiology of diabetic ketoacidosis	Level 1 (ST1-3)	Level 2 (ST4-5)
Be aware of potential complications including cerebral oedema	✓	
Know how to treat and monitor progress	✓	
Be able to recognise the clinical features of this condition	✓	
Be able to lead the team when initiating resuscitation and early treatment	✓	
Be able to manage ongoing treatment safely with guidance	✓	
Recognise potential complications including cerebral oedema		✓

**Hypoglycaemia**

Know the causes, complications and treatment in the neonatal period and beyond	Level 1 (ST1-3)	Level 2 (ST4-5)
Know that blood glucose is an urgent investigation in patients with impaired conscious level	✓	
Be aware of the clinical features which would suggest hypopituitarism or adrenal insufficiency	✓	
Know when to consider rare causes of hypoglycaemia and what investigations to perform during the hypoglycaemic episode	✓	
Be able to take relevant investigations required for the confirmation of cause	✓	
Be able to assess whether any change to insulin treatment is needed to prevent recurrence in diabetic patients	✓	
Recognise the need to inform the diabetes team of serious hypoglycaemia in their patients	✓	
Be able to treat hypoglycaemia safely and effectively with intravenous glucose or glucagon where appropriate	✓	

**Neonatal hypothyroidism**

Know the cause of this condition and its natural history	Level 1 (ST1-3)	Level 2 (ST4-5)
Recognise this presentation and the need for urgent treatment	✓	

**Ambiguous genitalia**

Be aware of the causes of this presentation	Level 1 (ST1-3)	Level 2 (ST4-5)
Understand the features of congenital adrenal hyperplasia and its early management	✓	
Recognise the extreme sensitivity of this presentation and of the need to seek urgent help from senior colleagues with regards to management and counselling parents	✓	
Be able to give appropriate information to parents whilst awaiting help from senior colleagues	✓	

**OUTPATIENT PRESENTATIONS**

**Short & tall stature**

Know the causes of short stature or slow growth and the characteristics of these conditions	Level 1 (ST1-3)	Level 2 (ST4-5)
Know when short stature needs to be investigated	✓	
Understand and know the rationale behind the baseline and subsequent investigations	✓	
Be aware of treatments that are suitable for pathological short stature	✓	
Know about the causes of tall stature	✓	
Be able to explain to patients and parents the non-serious causes of short stature e.g. genetic short stature, constitutional delay and hypothyroidism	✓	
Recognise the need to rule out Turner's syndrome as a cause of short stature in girls	✓	

**Delayed and early puberty**

Know the causes of early and late puberty	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the causes and possible investigation of early and late puberty	✓	
Recognise when the cause may be pathological rather than physiological	✓	

**Gonre and thyroid disorders**

Know the causes of congenital and acquired hypothyroidism	Level 1 (ST1-3)	Level 2 (ST4-5)
Know about the national screening programme for hypothyroidism	✓	
Understand the need for precise treatment and monitoring during infancy and early childhood	✓	
Know the associations of autoimmune disease and of trisomy 21	✓	
Be able to access thyroid status	✓	
Be able to recognise thyrotoxicosis	✓	
Be able to interpret thyroid function tests on and off treatment	✓	

**Polycystic and polydipsia**

Know the causes of this presentation including diabetes mellitus and insipidus	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the dangers of water deprivation	✓	
Be able to select patients who may require investigation	✓	✓
Be able to advise parents about habit drinking	✓	
Be able to select patients who may require investigation and initiate this		✓

**Obesity**

Understand the causes of obesity	Level 1 (ST1-3)	Level 2 (ST4-5)
Understand the long term complications	✓	
Understand interventional strategies that are involved in weight reduction	✓	
Be aware of the presentation of type 2 diabetes during childhood	✓	
Be aware that body mass index charts may be a helpful therapeutic tool		✓
Know about the presentation of type 2 diabetes during childhood		✓
Recognise features in the presentation which suggest serious pathology	✓	
Be able to explain the long term complications to parents	✓	
Be able to use body mass index charts to diagnose obesity		✓

**Gastroenterology and Hepatology**

## GENERAL COMPETENCES

Have the knowledge and skills to be able to assess and initiate management of patients presenting with gastroenterological problems in acute and outpatient settings	Level 1 (ST1-3)	Level 2 (ST4-5)
Understand the role of interventional procedures e.g. endoscopy or colonoscopy in the investigation of gastroenterological disorders	✓	
Recognise when a surgical opinion is required	✓	

## ACUTE PRESENTATIONS

<b>Acute abdominal pain</b>	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the causes of acute abdominal pain	✓	
Recognise conditions which require urgent intervention e.g. intussusception	✓	
Recognise when to request a surgical opinion	✓	
Recognise the need to consider acute appendicitis in very young children		✓
Recognise signs of pain in an infant or small child		✓

**Acute diarrhoea and/or vomiting**

Know the causes the symptoms of acute diarrhoea and/or vomiting	Level 1 (ST1-3)	Level 2 (ST4-5)
Be familiar with local isolation policies	✓	
Know about oral and intravenous fluid therapy	✓	
Understand the scientific principles for oral and intravenous fluid therapy		✓
Recognise features in the presentation which suggest serious pathology e.g. haemolytic uremic syndrome, appendicitis, intestinal obstruction	✓	
Implement local isolation policies		✓

**Jaundice**

Know the causes of neonatal and childhood jaundice	Level 1 (ST1-3)	Level 2 (ST4-5)
Investigate appropriately and know when to refer to specialist services	✓	

**Upper and lower gastrointestinal bleeding**

Know the causes of upper and lower gastrointestinal bleeding	Level 1 (ST1-3)	Level 2 (ST4-5)
Understand the potentially life threatening nature of this condition	✓	
Assess the severity of the condition	✓	
Institute appropriate emergency treatment	✓	
Recognise features in the presentation which suggest serious pathology		✓

**Abdominal distension**

Know the causes of abdominal distension	Level 1 (ST1-3)	Level 2 (ST4-5)
Initiate investigation and seek surgical opinion when required	✓	





**Acute liver failure**

Level 1 (ST1-3)	Level 2 (ST4-5)
✓	
✓	
✓	
✓	✓
✓	✓
	✓
	✓

**Constipation with or without soiling**

Be familiar with local and national guidelines for management	Level 1 (ST1-3)	Level 2 (ST4-5)
Know about predisposing conditions e.g. hypothyroidism, neurodisability, psychosocial problems	✓	
Understand the relevance of predisposing conditions e.g. hypothyroidism, neurodisability, psychosocial problems	✓	✓
Manage simple constipation with and without soiling	✓	
Recognise when to liaise with more senior paediatricians or with specialist nurses, psychologists or psychiatrists	✓	
Be able to follow local and national guidelines for management	✓	✓

**Dysphagia**

Know the causes of dysphagia	Level 1 (ST1-3)	Level 2 (ST4-5)
Be able to distinguish between organic and functional dysphagia	✓	
	✓	

**Congenital abnormalities**

Know the presenting features of congenital abnormalities including tracheo-oesophageal fistula, malrotation, bowel atresias, Hirschsprung's disease, abdominal wall defects, diaphragmatic hernia	Level 1 (ST1-3)	Level 2 (ST4-5)
Be familiar with potential associated abnormalities	✓	
Know when an infant is transferred to a Neonatal Surgical Centre should be considered	✓	
Institute appropriate emergency treatment	✓	
Recognise the need to liaise with surgeons	✓	
Institute appropriate emergency treatment and be able to assess the fitness of the baby and the need to transfer to a specialist centre	✓	✓
Recognise when the bowel might be compromised	✓	✓
Recognise the need to liaise with surgeons and when this is urgent	✓	✓

**Gastro-oesophageal reflux and oesophagitis**

Know the range of presentations of gastro-oesophageal reflux and oesophagitis in otherwise well infants and children and also in disabled children	Level 1 (ST1-3)	Level 2 (ST4-5)
Recognise the range of signs and symptoms associated with gastro-oesophageal reflux and oesophagitis	✓	
Manage mild and moderate gastro-oesophageal reflux and recognise when to refer	✓	✓

**OUTPATIENT PRESENTATIONS**

**Chronic or recurrent abdominal pain**

Know the possible biological, psychological and social contributing factors in chronic or recurrent abdominal pain	Level 1 (ST1-3)	Level 2 (ST4-5)
Know which features suggest that reassurance rather than investigation is needed	✓	
Recognise features in the presentation that suggest the importance of different aetiologies	✓	✓
Be able to refer appropriately to Psychology when required	✓	✓
Consider when there might be child protection issues	✓	✓
Be able to manage most cases		

**Chronic diarrhoea and/or vomiting**

Know the causes of Chronic diarrhoea and/or vomiting	Level 1 (ST1-3)	Level 2 (ST4-5)
Be aware of the characteristics of bulimia	✓	
Be able to initiate investigations	✓	✓

**Constipation with or without soiling**

Be familiar with local and national guidelines for management	Level 1 (ST1-3)	Level 2 (ST4-5)
Know about predisposing conditions e.g. hypothyroidism, neurodisability, psychosocial problems	✓	
Understand the relevance of predisposing conditions e.g. hypothyroidism, neurodisability, psychosocial problems	✓	✓
Manage simple constipation with and without soiling	✓	
Recognise when to liaise with more senior paediatricians or with specialist nurses, psychologists or psychiatrists	✓	
Be able to follow local and national guidelines for management	✓	✓

**Dysphagia**

Know the causes of dysphagia	Level 1 (ST1-3)	Level 2 (ST4-5)
Be able to distinguish between organic and functional dysphagia	✓	
	✓	

**Malabsorption**

Know the causes of malabsorption including celiac disease and cystic fibrosis and its consequences	Level 1 (ST1-3)	Level 2 (ST4-5)
Understand the principles of treatment of the different types of malabsorption	✓	
Recognise the role of the dietitian and to liaise appropriately	✓	
Be able to explain and initiate investigations, nutritional assessment, dietary principles and liaise appropriately with the dietitian	✓	✓

**Malnutrition**

Know the causes of malnutrition including organic and non-organic causes	Level 1 (ST1-3)	Level 2 (ST4-5)
Be familiar with the consequences of malnutrition	✓	
Know the principles of enteral and parenteral nutrition support	✓	
Be able to assess nutritional status	✓	
Be able to initiate investigations to establish the diagnosis and to detect nutritional deficiencies	✓	

**Iron deficiency anaemia**

Know the causes of iron deficiency anaemia including poor diet, bleeding and malabsorption	Level 1 (ST1-3)	Level 2 (ST4-5)
Understand factors which predispose to dietary iron deficiency anaemia	✓	
Be aware of the consequences of this condition	✓	
Be able to manage iron deficiency anaemia	✓	
Be able to counsel parents about preventing dietary iron deficiency	✓	✓

GENERAL COMPETENCIES

	Level 1 (S11-3)	Level 2 (S14-5)
Understand the scientific basis of chromosomal disorders and inheritance	✓	
Be able to construct a family tree and interpret patterns of inheritance	✓	
Understand the basis of molecular genetics	✓	
Know about the features of some common chromosome disorders	✓	
Know the basis of prenatal screening and diagnosis, the conditions for which they are used and the ethical dilemmas they pose	✓	
Be able to describe the features of a baby or child associated with common malformation or deformation syndromes	✓	
Have an awareness of the use and non-directive nature of genetic counselling	✓	
Understand the risks of and cultural issues posed by consanguinity	✓	
Have an understanding of the ethical dilemmas and the implications of pre-symptomatic or carrier testing in children	✓	
Have an experience of how geneticists work with fetal medicine specialists, neonatologists and paediatric surgeons	✓	
Be able to recognise features suggesting dysmorphic or genetic syndromes and to identify associated anomalies	✓	
Know the processes involved in establishing and presenting the diagnosis to parents	✓	
Have experience of interviews where diagnoses of serious conditions are communicated to parents	✓	
Know what to do when the diagnosis of Down's syndrome is suspected at delivery or on the postnatal wards	✓	
Be aware of environmental factors which may affect prenatal development, e.g. alcohol and drugs	✓	
Recognise the features of common chromosome disorders		✓
Be able to recognise and investigate common malformation or deformation syndromes and to identify associated anomalies		✓
Begin to participate in establishing and presenting the diagnosis to parents		✓
Be able to give appropriate information to parents while awaiting help from senior colleagues		✓
Be able to respond appropriately when the diagnosis of Down's syndrome is suspected at delivery or on the post-natal wards		✓
Be able to follow local and national protocols for the management of genetic disorders		✓

GENERAL COMPETENCIES

	Level 1 (S11-3)	Level 2 (S14-5)
Have the knowledge and skills to be able to assess patients presenting with haematological or oncological presentations in inpatient and outpatient settings	✓	
Be able to initiate management in common presentations of non-malignant disorders	✓	
Be aware of the role of specialist nurses and other members of palliative care teams	✓	
Know the principles of cancer treatment	✓	
Be aware of the short and long term side effects of chemotherapy and radiotherapy	✓	
Be familiar with the indications and complications of bone marrow transplantation	✓	
Know about national and local blood transfusion policies and procedures	✓	
Have the knowledge and skills to be able to assess and initiate investigation of patients presenting with haematological or oncological presentations in inpatient and outpatient settings		✓
Work effectively with specialist nurses and members of palliative care teams		✓
Know the short and long term side effects of chemotherapy and radiotherapy and be able to explain the common ones		✓
Know about local policies for intrathecal cytotoxic therapy		✓

ACUTE AND OUTPATIENT PRESENTATIONS

Anaemia

	Level 1 (S11-3)	Level 2 (S14-5)
Know and understand the causes of anaemia	✓	
Understand the investigations which may clarify the diagnosis	✓	
Know how to counsel parents about hereditary anaemias	✓	
Understand the predisposing factors and consequences of iron deficiency anaemia	✓	
Understand the hereditary basis and clinical features of sickle cell anaemia and the thalassaemias	✓	
Understand the long term implications for families	✓	
Know about the potential consequences of haemolytic anaemia	✓	
Be able to manage iron deficiency anaemia	✓	
Be able to explain screening for the thalassaemia or sickle cell trait	✓	
Be able to recognise and initiate management of sickle cell crisis	✓	
Be able to investigate anaemia and recognise serious underlying pathology	✓	
Be able to manage sickle cell crisis, including safe administration of fluid and analgesia	✓	

Polycythaemia

	Level 1 (S11-3)	Level 2 (S14-5)
Know the cause and treatment of polycythaemia in the newborn period	✓	
Understand why children with congenital heart disease are vulnerable to polycythaemia	✓	
Be able to describe the process of partial plasma exchange transfusion in a newborn infant	✓	
Be able to undertake partial plasma exchange transfusion in a newborn infant		✓





	Level 1 (ST1-3)	Level 2 (ST4-5)
<b>Neutropenia</b>		
Understand the significance of fever in a neutropenic patient	✓	
Understand the differing risks of neutropenia in different conditions and treatment regimens		✓
Be able to manage febrile neutropenia with guidance	✓	
Be able to manage febrile neutropenia, following local network guidelines and recognising when to base with specialist services		✓

	Level 1 (ST1-3)	Level 2 (ST4-5)
<b>Purpura and bruising</b>		
Know the causes of purpura and bruising	✓	
Recognise features in the presentation which suggest serious pathology or child abuse	✓	
Understand immune mechanisms in vasculitis and in allo- and auto-immune thrombocytopenia		✓
Be able to explain Henoch-Schönlein purpura to parents	✓	
Know how to explain idiopathic thrombocytopenic purpura to parents	✓	
Be able to explain idiopathic thrombocytopenia (ITP) to parents including when precautions and treatment are necessary		✓
Be able to manage acute bleeding in haemophilia and Von Willebrand's disease		✓
Use parent counselling services appropriately		✓
Be able to explain Henoch-Schönlein purpura to parents and manage patients		✓

	Level 1 (ST1-3)	Level 2 (ST4-5)
<b>Other haemorrhage due to coagulopathy</b>		
Know the causes and presentations of haemorrhagic disease of the newborn	✓	
Understand the heaedian/loss of haemophilia and other coagulation disorders	✓	
Be able to discuss the need for prophylactic vitamin K with parents	✓	
Be able to recognise and treat haemorrhosis in a patient with haemophilia	✓	
Be able to recognise and treat haemorrhosis in a patient with haemophilia and be aware of the need to treat urgently, with appropriate advice		✓

	Level 1 (ST1-3)	Level 2 (ST4-5)
<b>Leukaemia</b>		
Be aware of the different types of leukaemia and of their prognoses	✓	
Recognise and understand the clinical manifestations of leukaemia	✓	
Know the different types of leukaemia and of their prognoses		✓
Be able to recognise the immediate dangers of leukaemia to the newly presenting child	✓	
Be aware of national trials and protocols	✓	
Be able to recognise and initiate investigations to diagnose leukaemia		✓
Be able to follow local and national protocols in treating leukaemia and associate infections		✓

	Level 1 (ST1-3)	Level 2 (ST4-5)
<b>Lymphomas</b>		
Know the clinical features of Hodgkin's disease and non-Hodgkin's lymphoma	✓	
Know the features which suggest lymphadenopathy may be malignant and how it may be investigated		✓
Be aware of staging and protocols for treatment	✓	

	Level 1 (ST1-3)	Level 2 (ST4-5)
<b>Other solid tumours</b>		
Know about the clinical presentation, treatment and prognosis of nephroblastoma and neuroblastoma	✓	
Be aware of the clinical features and investigation findings of other solid tumours	✓	
Be aware of staging and protocols for treatment	✓	
Be able to recognise the presenting features of these tumours	✓	

	Level 1 (ST1-3)	Level 2 (ST4-5)
<b>Transfusion</b>		
Understand the risks of administering blood products		✓
Know the indications for irradiated blood products		✓
Recognise the concerns of some groups in society in relation to blood products		✓
Follow transfusion procedures correctly		✓
Explain the risks and benefits		✓
Order blood products		✓
Appropriately manage transfusion reaction		✓



**Infection, Immunology and Allergy**

GENERAL COMPETENCES

	Level 1 (ST1-3)	Level 2 (ST4-5)
Have the knowledge and skills to be able to assess and initiate management of patients	✓	
Know and understand host defence mechanisms and their pattern of development	✓	
Know the causes of vulnerability to infection	✓	
Know and understand the classification of microbial agents	✓	
Know the mechanisms of maternal to foetal transmission of infection and the clinical manifestations of these infections	✓	
Know the epidemiology, pathology and natural history of common infections of the fetus, newborn, and children in Britain and important worldwide infections, e.g. TB, HIV, hepatitis, B, malaria, Polio	✓	
Be able to follow agreed local and national guidelines on notification of infectious diseases	✓	
Understand the rationale for prescribing common antimicrobials	✓	
Know the indications for antimicrobial prophylaxis	✓	
Understand the mechanisms of drug resistance	✓	
Understand nosocomial infections and the basic principles of infection control	✓	
Be aware of the policies for notifying communicable diseases	✓	
Understand the pathophysiology and the principles of treatment of allergic and autoimmune disorders	✓	
Understand the classification of immunodeficiencies	✓	
Know the clinical manifestations of the different types of immunodeficiencies	✓	
Know the conditions and treatments which result in secondary immunodeficiencies	✓	
Recognise indications for and be able to prescribe appropriate first line common anti-microbials	✓	
Be able to prescribe antimicrobial prophylaxis appropriately	✓	
Apply principles of infection control	✓	
Take responsibility for notifying communicable diseases	✓	
Be able to use the antibiotic policies and understand the development of resistant organisms	✓	
Be able to assess and institute appropriate management of infection in an immuno-compromised child	✓	

ACUTE PRESENTATIONS

**Septic shock**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Understand the pathophysiology of septic shock and its complications	✓	
Know local and nationally agreed guidelines for the management of septic shock including meningococcal disease	✓	
Be aware of the differential diagnosis of septic shock	✓	
Be able to recognise the early features of septic shock	✓	
Be able to lead the team when initiating resuscitation and treatment	✓	
Be able to liaise with anaesthetic and PCU staff	✓	
Be able to initiate and lead immediate management of early and advanced features of septic shock	✓	
Be able to liaise effectively with anaesthetic and PCU staff and manage patient until transfer team takes over	✓	

**Fever of unknown origin**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the possible causes of fever of unknown origin	✓	
Understand aspects of social history that are relevant to explore	✓	
Recognise features in the presentation which suggest serious or unusual pathology	✓	
Be able to initiate investigations to establish cause	✓	

	Level 1 (ST1-3)	Level 2 (ST4-5)
<b>Anaphylaxis</b>		
Know the management of anaphylaxis guidelines	✓	
Be able to lead the team when initiating resuscitation and treatment	✓	
Be able to liaise with anaesthetic and PCU staff	✓	
Be able to lead the team to provide advanced life support	✓	
Be able to advise on the future risk of anaphylaxis and facilitate an appropriate anaphylaxis management plan by liaising with community teams	✓	

OUTPATIENT PRESENTATIONS

**Recurrent infections**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Understand why children suffer recurrent infections	✓	
Be aware of conditions which predispose to infection	✓	
Understand why children suffer recurrent infections and know which conditions predispose to infection	✓	
Recognise features in the presentation which suggest serious underlying pathology	✓	
Recognise and investigate appropriately features in the presentation which suggest underlying pathology	✓	

**Food intolerance and other allergies**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the common offending foods	✓	
Be aware of the investigations that are available and of their limitations	✓	
Know the features of cows' milk protein intolerance and its management	✓	
Know the foods that can trigger IgE-mediated reactions	✓	
Understand the investigations that are available and of their limitations	✓	
Know the features of cows' milk protein intolerance and its management	✓	
Understand the mechanisms of IgE and non IgE food allergy/food intolerance due to pharmacological effects of food and food intolerance due to enzyme deficiencies	✓	
Recognise the potential serious nature of food allergy	✓	
Advise on the appropriate use of adrenaline	✓	
Be able to distinguish allergy from intolerance and be able to explain to parents	✓	

**Immunisation**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Understand passive and active immunisation	✓	
Understand the principles and the rationale behind the national immunisation policy for children in Britain	✓	
Know the indications, contraindications and complications of routine childhood immunisations	✓	
Be able to advise parents about immunisations	✓	





	Level 1 (S11-3)	Level 2 (S14-5)
Recognise the clinical and biochemical features of electrolyte and acid base disturbances.	✓	
Know the common clinical presentations of metabolic disease including encephalopathy, neurodevelopmental regression, muscle weakness, visceromegaly and failure to thrive	✓	
Know when it is appropriate to perform metabolic investigations in neonates and children	✓	
Know the appropriate screening investigations that should be performed when a metabolic disorder is suspected	✓	
Know further investigations that should be performed in order to establish a diagnosis of a metabolic disorder	✓	
Be able to interpret commonly used investigations and understand how these differentiate between metabolic disorders including those that result in cot death	✓	
Know about the common biochemical findings in an acutely ill newborn or child presenting with metabolic disease including hypoglycaemia, hyponatraemia or metabolic acidosis	✓	
Understand when it is appropriate to investigate, and which investigations to perform, in a neonate or child with visceromegaly	✓	
Know the causes of metabolic bone disease and investigations to differentiate between the causes	✓	
Know when it is appropriate to consider porphyria in a child presenting with abdominal pain	✓	
Understand the principles of dietary, vitamin and pharmacological treatment of metabolic disorders	✓	
Be aware of those metabolic disorders which are vitamin responsive or responsive to pharmacological treatment	✓	
Know about the metabolic disorders which may respond to enzyme therapy or bone marrow transplantation	✓	
Know the routine screening tests for metabolic disease and be able to explain them to parents	✓	
Know the inheritance patterns of common genetically determined metabolic disorders	✓	
Know about the educational and social implications of metabolic disorders and the importance of organising support in the community for special diets and other risks	✓	
Recognise and be able to manage the clinical and biochemical features of electrolyte and acid base disturbances		✓
Know the common clinical presentations and principles of management of metabolic disease including encephalopathy, neurodevelopmental regression, muscle weakness, visceromegaly and failure to thrive		✓
Be able to initiate metabolic investigations in neonates and children and in urgent situations		✓
Know what samples must be taken in metabolic investigations at the time of presentation and the importance of liaison with laboratories to ensure use of the appropriate container, handling and storage		✓
Know which metabolic disorders are associated with learning difficulties and manage timely referral for those at risk		✓

	Level 1 (S11-3)	Level 2 (S14-5)
Know the differential diagnosis of musculoskeletal presentations including inflammatory, non-inflammatory and idiopathic causes	✓	
Take an appropriate history, musculoskeletal examination and assessment	✓	
Recognise when to request the opinion of paediatric rheumatologists or orthopaedic surgeons	✓	
Recognise features in the clinical presentation or investigation findings which suggest serious pathology e.g. inflammation, malignancy, infection and vasculitis	✓	
Recognise features in the clinical presentation or investigation findings which suggest physical abuse, emotional abuse and neglect	✓	
Understand the role of the multi-disciplinary team and other professionals involved in the care of children with musculoskeletal conditions	✓	
Be aware of the complications of immunosuppressive treatment	✓	
Understand the disease associations of rheumatological conditions, in particular juvenile arthritis and eye disease	✓	
Understand the association of musculoskeletal presentations and common chronic diseases (such as psoriasis, inflammatory bowel disease)	✓	
Understand the initial investigations to establish a diagnosis	✓	
Understand the indication for and complications of immunosuppressive treatment		✓
Be aware of congenital bone, inherited or metabolic conditions and their musculoskeletal presentations		✓
Interpret investigations that are helpful in establishing a differential diagnosis		✓

ACUTE PRESENTATIONS

**Joint swelling**

	Level 1 (S11-3)	Level 2 (S14-5)
Know the causes of joint swelling at single and multiple sites	✓	
Know when to refer for a specialist opinion	✓	
Be able to identify joint swelling and abnormal range of joint movement on clinical examination	✓	
Be able to perform a musculoskeletal assessment including a screening examination and an approach to more detailed examination		✓

**Musculoskeletal pain**

	Level 1 (S11-3)	Level 2 (S14-5)
Know the varied causes of musculoskeletal pain	✓	
Be aware of referred pain	✓	
Know when to refer for a specialist opinion	✓	
Know the varied causes of musculoskeletal pain including referred pain and features that suggest different causes		✓
Perform a musculoskeletal examination		✓
Perform a musculoskeletal examination including a screening and appropriate regional examination		✓

**Limp**

	Level 1 (S11-3)	Level 2 (S14-5)
Know the differential diagnosis of a limp at different ages and clinical presentations	✓	

**Limb pain**

	Level 1 (S11-3)	Level 2 (S11-5)
Know the differential diagnosis of limb pains	✓	
Be aware of the clinical features of benign hypermobility and non-benign hypermobility (e.g. Marfan syndrome)	✓	
Be able to distinguish between inflammatory and non-inflammatory conditions	✓	
Be able to assess joint laxity		✓
Be able to distinguish between inflammatory and non-inflammatory conditions and recognise features that suggest serious pathology		✓

**Back pain and neck pain**

	Level 1 (S11-3)	Level 2 (S11-5)
Be aware of the causes of back/neck pain and be aware of features that may suggest serious underlying pathology	✓	
Know the causes of scoliosis	✓	
Know the indications of further/urgent investigations and referral for a specialist opinion	✓	
Know the common causes of torticollis	✓	
Know the causes of back/neck pain		✓
Be able to recognise scoliosis		✓

**Leg alignment (normal variants)**

	Level 1 (S11-3)	Level 2 (S11-5)
Be aware of normal patterns of leg alignment and foot posture, bow legs, knock knees, in-toeing and flat feet at different ages	✓	
Be aware of indications for investigation and when specialist opinion is required	✓	
Know the predisposing factors and presentation of rickets	✓	
Know normal patterns of leg alignment and foot posture, bow legs, knock knees, in-toeing and flat feet at different ages		✓
Be able to recognise the clinical presentation and radiological features of rickets		✓

**Multi-system disease**

	Level 1 (S11-3)	Level 2 (S11-5)
Be able to distinguish between inflammatory and non-inflammatory conditions	✓	

**Neonatology**

GENERAL COMPETENCIES

	Level 1 (S11-3)	Level 2 (S11-5)
Be able to examine the newborn baby appropriately and with sensitivity	✓	
Be able to perform an accurate assessment of the baby at birth	✓	
Have the knowledge and skills to be able to assess and initiate management of babies presenting in the neonatal period with problems (in acute, postnatal ward and outpatient settings)	✓	
Be able to initiate appropriate resuscitation when required	✓	
Know and understand the effects of antenatal and perinatal events on outcome	✓	
Know and understand the pathophysiology of the effects of prematurity	✓	
Be able to recognise and outline the management of some common disorders	✓	
Be able to initiate diagnostic tests for common disorders	✓	
Understand the principles of mechanical ventilation and resuscitation	✓	
Be able to perform a reliable assessment of fluid status and initiate appropriate fluid management	✓	
Understand the principles of parenteral nutrition	✓	
Understand the principles and importance of nutrition in the neonatal period	✓	
Have experience of basic practical procedures and tests and be able to understand the results	✓	
Understand the principles of prescribing for newborn babies and breastfeeding mothers	✓	
Understand the life-threatening nature of some of these situations and when to call for help or look for personal support	✓	
Know when and how babies are transferred for specialist levels of intensive care	✓	
Understand the implications for families of babies with neonatal problems	✓	
Begin to develop strategies to communicate sympathetically with parents	✓	
Understand the long-term sequelae of prematurity and begin to recognise those at risk	✓	
Know about the retinopathy of prematurity and its prevention and treatment	✓	
Be able to recognise and manage common disorders	✓	
Have the knowledge and skills to be able to assess and manage babies presenting in the neonatal period with problems (in acute, postnatal ward and outpatient settings)	✓	
Know and be able to describe the effects of antenatal and perinatal events on outcome	✓	
Know and be able to describe the pathophysiology of the effects of prematurity	✓	
Be able to initiate diagnostic tests for common disorders and to interpret and explain results to parents	✓	
Understand the principles of and initiate mechanical ventilation and resuscitation	✓	
Be able to perform a reliable assessment of fluid status and adjust fluid management	✓	
Understand the principles of parenteral nutrition and be able to prescribe safely	✓	
Be skilled in practising and be able to teach basic practical procedures	✓	
Be able to prescribe safely for newborn babies and breastfeeding mothers	✓	
Recognise the life-threatening nature of some of these situations and the need to call for help or look for personal support	✓	
Understand the implications for families of babies with neonatal problems and begin to support them	✓	





	Level 1 (S1-3)	Level 2 (S14-5)
Be able to develop strategies to communicate sympathetically with parents and have experience of strategies for dealing with their distress or anger		✓
Be able to describe the long-term sequelae of prematurity and recognise those at risk		✓
Be able to initiate and lead advanced resuscitation when required		✓
Have successfully completed a neonatal life-support course		✓
Usually be able to obtain appropriate arterial and venous access		✓
Understand the principles and importance of nutrition in the neonatal period including assessment of nutritional status, the steps needed to establish breast feeding and nutritional supplementation		✓
Be able to apply clinical reasoning when selecting tests and be able to understand the results sufficiently well to be able to explain them to parents and members of the multi-disciplinary team		✓
Be able to decide on appropriate referrals for transfer to other units, communicate effectively with all involved and maintain care as safely as possible until transfer team takes over		✓
Know how to interpret radiological investigations including the basic features of cranial ultrasound and discuss basic findings with parents		✓
Know how to refer appropriately to community services before discharge and begin to participate in the follow up of those at risk		✓
Know about follow-up programmes for those at risk		✓
Be able to describe the ethical issues relating to neonatal intensive care		✓

**Birth depression**

	Level 1 (S1-3)	Level 2 (S14-5)
Know the causes and possible outcomes	✓	
Understand the principles of resuscitation	✓	
Know the criteria necessary before perinatal asphyxia can be diagnosed	✓	
Understand the physiological effects of a hypoxic-ischaemic insult	✓	
Know the statistics of the outcomes of birth depression		✓
Understand the physiology of resuscitation and the response to it		✓
Understand the long term implications of hypoxic-ischaemic damage		✓
Be able to initiate resuscitation using bag and mask ventilation and cardiac compressions	✓	
Can intubate term babies and have had supervised experience of intubating preterm babies	✓	
Recognise features which suggest significant consequences		✓
Be able to provide and lead basic and advanced resuscitation, including intubation		✓
Be able to intubate pre-term babies without direct supervision		✓
Be able to recognise and initiate management to prevent secondary damage		✓

**Respiratory Distress (acute and chronic)**

	Level 1 (S1-3)	Level 2 (S14-5)
Understand the common causes of respiratory distress	✓	
Know the relevant investigations, understand the principles and complications of ventilation	✓	
Know the guidelines for surfactant therapy	✓	
Understand the pathophysiology and management of chronic lung disease	✓	
Understand the contribution of patent ductus arteriosus to respiratory compromise	✓	
Understand the principles and complications of differing ventilation techniques		✓
Be aware of the indications for ECMO and inotropic therapies		✓
Know the images needed and safe positions for arterial and venous lines		✓
Have seen echocardiography where patent ductus arteriosus is diagnosed		✓
Be able to interpret chest radiographs	✓	
Be able to administer surfactant	✓	
Be able to initiate respiratory support	✓	
Be able to suspect and diagnose pneumothorax	✓	
Recognise when to request help from a medical or nursing colleague	✓	
Obtain, interpret and act appropriately on blood gas results	✓	
Be able to insert umbilical arterial and venous lines	✓	
Be able to identify signs suggestive of patency of the duct and describe management options	✓	
Be able to interpret chest radiographs and act on results		✓
Be able to identify signs of patent ductus arteriosus and initiate management		✓
Be able to initiate and continue to manage respiratory support on a ventilator		✓
Be able to diagnose pneumothorax and know when chest drainage is indicated		✓
Recognise when response to management is not optimal and request help from senior colleagues to other services		✓
Know the steps that need to be taken to discharge a baby on long term oxygen into the community		✓
Be able to teach and supervise the insertion of umbilical, arterial and venous lines		✓

**Cyanosis not of respiratory origin**

	Level 1 (S1-3)	Level 2 (S14-5)
Understand the anatomy and implications of cyanotic congenital heart disease	✓	
Understand the pathophysiology of persistent pulmonary hypertension and know about treatment	✓	
Be able to suspect the diagnosis and initiate appropriate investigations	✓	
Be able to make a likely diagnosis and initiate appropriate investigations and treatment		✓

**Hypertension**

	Level 1 (S1-3)	Level 2 (S14-5)
Understand the causes and effects	✓	
Understand the rationale for different treatment options	✓	
Be able to interpret and act on blood pressure measurements	✓	

	Level 1 (S11-3)	Level 2 (S14-5)
<b>Intra-uterine growth restriction and other nutrition problems</b>		
Understand the importance of breastfeeding	✓	
Know the causes of intra-uterine and postnatal growth failure		
Understand the principles of parenteral nutrition	✓	
Know about risk factors for necrotising enterocolitis	✓	
Understand the importance of nutrition in sick babies		✓
Know about the signs, symptoms and complications of necrotising enterocolitis		✓
Be able to keep and interpret accurate growth records	✓	
Be able to prescribe appropriate nutrition supplements	✓	
Be able to insert a percutaneous long line	✓	
Be able to recognise early signs of necrotising enterocolitis and initiate treatment		✓
Be able to assess appropriate position of percutaneous long line from imaging		✓
Be able to recognise and begin to address poor growth		✓

**Fluid and blood product therapy**

	Level 1 (S11-3)	Level 2 (S14-5)
Know the fluid requirements of preterm and sick babies	✓	
Know the causes of abnormal coagulation	✓	
Know the indications for therapy with blood products	✓	
Know the fluid requirements of the term, sick and growth-restricted babies		✓
Know when irradiated blood products are indicated		✓
Be able to assess fluid balance	✓	
Recognise the need for blood product transfusions	✓	
Be able to test for and recognise bleeding disorders	✓	
Be able to act to correct fluid balance abnormalities		✓
Be able to prescribe blood product transfusions		✓
Be able to initiate treatment for bleeding disorders		✓

**Neonatal seizures or abnormal neurological status including the floppy baby**

	Level 1 (S11-3)	Level 2 (S14-5)
Understand the aetiology and prognosis of abnormal neurological status	✓	
Know about periventricular haemorrhage and leucomalacia	✓	
Know about the management of post-haemorrhagic hydrocephalus	✓	
Know the possible causes and effects of seizures		✓
Know the possible causes of abnormal tone		✓
Be able to perform a neurological assessment	✓	
Be able to recognise the basic features of cranial ultrasound scans	✓	
Be able to recognise and initiate management of seizures	✓	
Have had some experience of performing cranial ultra-sound		✓
Be able to make a likely diagnosis and initiate management of seizures		✓

	Level 1 (S11-3)	Level 2 (S14-5)
<b>Have experience of how bad news is communicated to parents</b>		✓
<b>Serious congenital abnormalities</b>		
Understand the underlying pathology	✓	
Understand the use of antenatal diagnosis and the role of fetal medicine	✓	
Be aware of surgical interventions	✓	
Understand the impact on parents of the birth of a baby with serious congenital abnormalities or potential disabilities and the ensuing grief due to loss of the expect of normal child	✓	
Understand the role of fetal medicine and interventions that are available		✓
Be able to recognise serious abnormalities	✓	
Be able to initiate appropriate tests	✓	
Be able to respond to parents' immediate questions	✓	
Be able to diagnose common syndromes	✓	
Be able to refer appropriately to parent support groups and to community services before discharge		✓
Be able to break bad news to parents		✓

**Sepsis**

	Level 1 (S11-3)	Level 2 (S14-5)
Know the likely pathogens	✓	
Understand the importance of timely treatment	✓	
Know about nosocomial infection	✓	
Understand the importance of timely treatment, know the range of treatments and the likely pathogens		✓
Recognise early signs of sepsis and initiate therapy appropriately	✓	
Practise effective infection control	✓	
Anticipate early signs of sepsis and initiate appropriate anti-microbial therapy and supportive management		✓

**The dying baby**

	Level 1 (S11-3)	Level 2 (S14-5)
Understand the ethical principles involved	✓	
Know about terminal care and bereavement counselling	✓	
Understand the ethical principles in withdrawing or withholding care from an infant		✓
Be able to communicate sympathetically with parents	✓	
Begin to develop strategies to deal with personal stress and know when to look for support	✓	
Be able to communicate sympathetically with staff		✓
Be able to deal with personal stress and know when to look for support		✓





POSTNATAL WARD AND OUTPATIENT PRESENTATIONS

	Level 1 (ST1-3)	Level 2 (ST4-5)
<b>Jaundice</b>		
Understand the investigations that will differentiate between the causes of conjugated and unconjugated hyperbilirubinaemia	✓	
Know the appropriate management	✓	
Know how an exchange transfusion is performed	✓	
Know the investigations that will diagnose the causes of conjugated and unconjugated hyperbilirubinaemia		✓
Know how and when to undertake an exchange transfusion		✓
Be able to diagnose haemolytic jaundice	✓	
Be able to prescribe phototherapy appropriately	✓	
Recognise features which suggest serious pathology	✓	
Be able to manage haemolytic jaundice		✓
Anticipate the need for an exchange transfusion appropriately		✓
Be able to undertake a full exchange transfusion without supervision		✓
Be able to investigate and manage prolonged neonatal jaundice appropriately		✓

	Level 1 (ST1-3)	Level 2 (ST4-5)
<b>Feeding</b>		
Understand the importance of breastfeeding	✓	
Know the causes of feeding problems	✓	
Know the local policies on feeding		✓
Be able to support and advise breastfeeding mothers	✓	
Be able to identify underlying pathology or failure to thrive	✓	
Be able to make appropriate recommendations to address feeding problems and faltering growth (failure to thrive)		✓

	Level 1 (ST1-3)	Level 2 (ST4-5)
<b>Infants of diabetic mothers</b>		
Understand the physiology	✓	
Know the likely complications	✓	
Know when admission to a neonatal unit is indicated		✓
Be able to interpret blood glucose estimations	✓	
Be able to initiate appropriate management	✓	
Be able to anticipate problems early and manage appropriately		✓

	Level 1 (ST1-3)	Level 2 (ST4-5)
<b>Minor congenital abnormalities</b>		
Know the common diagnoses and the likely prognosis of minor congenital abnormalities	✓	
Know about common presentations of congenital cardiac disease	✓	
Know about common presentations of congenital cardiac disease and which need urgent action		✓
Be able to advise parents appropriately	✓	
Recognise when referral to an appropriate specialist is needed	✓	

Be able to ensure that referral to an appropriate specialist on service occurs

	Level 1 (ST1-3)	Level 2 (ST4-5)
<b>Disordered development</b>		
Know the causes and natural history of conditions causing disordered development	✓	
Understand current theories about the pathophysiology of cerebral palsy	✓	
Understand the common complications of cerebral palsy and disordered development and how to access expert assessment and management	✓	
Understand current theories about retinopathy of prematurity and sensorineural hearing loss and how these conditions may be prevented		✓
Be able to perform a developmental assessment	✓	
Be aware of the need for involvement of the multidisciplinary team	✓	
Understand the impact of developmental delay on families	✓	
Be able to perform a neurological assessment		✓
Be able to make a timely and appropriate referral to the multidisciplinary team		✓
Have seen examples of the effect of developmental difficulties on families		✓

	Level 1 (ST1-3)	Level 2 (ST4-5)
<b>Screening</b>		
Know the range of screening tests used including the newborn examination	✓	
Know about the universal Newborn Hearing Screening Programme	✓	
Understand the difference between a screening and a diagnostic test	✓	
Understand the investigations that will follow	✓	
Know about developmental dysplasia of the hip	✓	
Know about retinopathy and cataract screening		✓
Know the management of developmental dysplasia of the hip		✓
Be able to explain the implications of a screening test to parents	✓	
Order such tests appropriately	✓	
Be able to perform a newborn examination effectively (including heart, pulses, hips, palate and eyes for red reflex)	✓	
Be able to perform clinical screening tests		✓
Be able to explain the difference between a screening test and a diagnostic test to parents		✓

**Nephrology**

GENERAL COMPETENCES

	Level 1 (ST1-3)	Level 2 (ST4-5)
Have the knowledge and skills to be able to assess and initiate management of patients presenting with nephrology problems in acute and outpatient settings	✓	
Be able to perform a reliable and accurate assessment of fluid status and initiate appropriate fluid management	✓	
Have the knowledge and understanding of fluid and electrolyte imbalance and blood pressure in children with kidney problems	✓	
Understand the principles of prescribing in children with renal disease	✓	
Recognise features in the presentation which suggest serious or significant pathology	✓	
Understand the role of different renal imaging techniques including ultrasound, static and dynamic isotope scans in the investigation of urinary tract disorders	✓	
Understand the role of different renal imaging techniques including ultrasound, static and dynamic isotope scans in the investigation of urinary tract disorders and recognise common abnormalities		✓

ACUTE PRESENTATIONS

**Nephrotic syndrome**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Understand the complications of the nephrotic state	✓	
Understand the principles of the pharmacological, dietary and fluid management	✓	
Understand the investigations including the indication for renal biopsy	✓	
Be able to advise parents on the complications of steroid therapy	✓	
Assess features in the presentation which suggest serious or significant pathology		✓
Be able to advise parents on long term management and complications of treatment		✓

**Acute nephritis**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the aetiology, pathophysiology and immunological basis of glomerulonephritides and vasculitides	✓	
Understand the investigations that will differentiate between the causes	✓	
Be aware of the range of immunosuppressive therapies that may be used in these conditions	✓	
Know the features that are prognostically significant		✓
Know the range of immunosuppressive therapies that may be used in these conditions		✓

**Acute renal failure**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the causes of acute renal failure	✓	
Understand the investigations that may differentiate between these causes	✓	
Know the features of haemolytic uremic syndrome	✓	
Understand the methods to correct fluid and biochemical abnormalities seen in renal failure		
Know the indications for dialysis		
Be able to assess and initiate management of life-threatening events e.g. hyperkalaemia		✓

**Hypertension**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the techniques of blood pressure measurement	✓	
Know the causes of hypertension and the principles of treatment	✓	
Be able to interpret blood pressure measurements	✓	
Be able to identify complications		✓
Be able to initiate management under supervision		✓
Be able to advise with specialists effectively		✓

**Acute scrotal pain**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the differential diagnosis of this symptom	✓	
Be able to recognise the important causes of acute scrotal pain	✓	
Be able to identify children who require urgent surgical referral	✓	

**Neonate with history of abnormal antenatal ultrasound of the renal tract**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Understand the causes and management of antenatal hydronephrosis	✓	
Know about the causes of ectopic or cystic kidneys	✓	
Know about the inheritance patterns of renal abnormalities detected in fetal life	✓	
Be able to recognise when to refer to a nephrologist or urologist	✓	
Be able to give basic explanation of the problem, management and prognosis to parents ante- or post-natally		✓

**Stones**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the causes of stone formation	✓	
Be able to recognise presenting features		✓
Be able to initiate management under supervision		✓

OUTPATIENT PRESENTATIONS

**Voiding disorders including enuresis, dysuria, frequency and polyuria**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Understand both the physical and psychological causes of voiding disorders	✓	
Understand the principles of investigation of urinary tract infection and management of vesico-ureteric reflux	✓	
Understand the principles of managing enuresis	✓	
Be aware of the association of genito-urinary symptoms with child sexual abuse		✓
Be able to take a detailed voiding history	✓	
Be able to interpret common urine microscopic and culture findings	✓	
Be able to identify relevant neurological problems		✓
Be able to investigate and manage within guidelines		✓

**Haematuria and proteinuria**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the causes of these signs	✓	
Understand the investigations that will differentiate between the causes	✓	
Know the indications for renal biopsy	✓	





**Urogenital abnormalities**

Know when surgical referral is required for circumcision, impalpable testes, hypospadias or suspected urinary tract obstruction	Level 1 (S11-3)	Level 2 (S14-5)
Be able to examine the genitalia appropriately and with sensitivity	✓	✓
Recognise inflammatory or traumatic lesions	✓	✓

**Chronic renal failure**

Know the causes and natural history of conditions causing chronic renal failure	Level 1 (S11-3)	Level 2 (S14-5)
Understand the pathophysiology of bone disease, anaemia and growth failure	✓	✓
Know about dialysis and transplantation	✓	✓
Appreciate the impact of chronic renal failure in childhood and later adult life	✓	✓
Identify growth and nutritional problems and use dietary support effectively	✓	✓

**Tubular disorders**

Know the range of presentations suggestive of an underlying renal tubular disorder	Level 1 (S11-3)	Level 2 (S14-5)
Know about the inheritance patterns of different tubular disorders	✓	✓

**Neurology and Neurodisability**

GENERAL COMPETENCES

	Level 1 (S11-3)	Level 2 (S14-5)
Have knowledge and understanding of the pathophysiology of common disorders affecting the nervous system	✓	
Know and understand the common causes of disability	✓	
Understand concepts of disability and what this means for the child and family	✓	
Be able to take an accurate neurological and neuro-developmental history	✓	
Be able to examine the nervous system of a newborn baby, child and young person	✓	
Know and understand the pathophysiology of the effects of prematurity	✓	
Be able to perform a reliable assessment of neuro-developmental status at key stages, including the newborn period, the first year of life, nursery age, school entry and late primary education	✓	
Be able to recognise a disabled child	✓	
Have the knowledge and skills to be able to initiate management of children with neurological and/or neurodisabling conditions in acute settings and know when and whom to call for help	✓	
Understand the life-threatening nature of acute neurological deterioration and when to call for help	✓	
Be able to recognise, initiate diagnostic tests and outline the management of common disorders	✓	
Understand the principles and use of neuro-radiological imaging	✓	
Have a basic understanding and experience of neuro-physiological tests	✓	
Understand the principles of prescribing and monitoring therapy	✓	
Have experience of working with multi-disciplinary teams	✓	
Understand the implications for families of children with neurological and neurodisabling conditions	✓	
Understand the impact of developmental disorders on the life of child and family at different developmental stages	✓	
Understand the need for a range of communication skills with disabled children, their families and other professionals	✓	
Be able to work with families and professionals in the care of disabled children	✓	
Be aware of local services	✓	
Understand the need to work with other services outside neurology and neurodisability such as child protection, education, services for looked after children and adult services	✓	
Develop a commitment to advocacy on behalf of disabled children and their families	✓	
Be aware of how agencies work together to address how children with health and medical needs are managed at school	✓	
Have worked on specific cases with multi-disciplinary teams	✓	
Have experience of a range of communication skills with disabled children, their families and other professionals	✓	
Be aware of local services and how to access them	✓	
Have experience of working with other services outside neurology and neurodisability such as child protection, education, services for looked after children and adult services	✓	
Have experience of how agencies work together to address how children with health and medical needs are managed at school	✓	
Have had experience of working in special schools	✓	
Be aware of the role of the Designated Medical Officer to the Local Education Authority	✓	
Be aware of the statutory requirement to notify children who may have special educational needs to the LEA and know how to do so	✓	
Be able to write SBN medical reports on simple cases	✓	



Have experience of the local Special Educational Needs (SEN) panel	✓
Have experience of SEN annual reviews and Transition planning	✓
Be able to distinguish simple developmental delay from developmental disorders and to manage simple cases	✓
Be able to recognise and come to a likely diagnosis of common developmental disorders such as cerebral palsy, dyspraxia, ADHD, specific learning difficulties and arrange timely and appropriate specialist assessment	✓
Know how equipment can be used to lessen the effects of disability and how to refer	✓
Know about and be prepared to find out about self-help and support groups for children and their families with conditions in their specialist area and be aware of the requirement to refer parents about these groups	✓
Be able to write reports on medical or developmental conditions for parents and non-clinical staff in education and elsewhere that are easily understood by the lay person, and that explain the implications of the condition and how it may impact on the child and its or her cases in non-clinical settings	✓
Know about what benefits may be payable to the disabled child and/or carers and how they may be accessed	✓
Know about local respite facilities and how they may be accessed	✓

**Seizures**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the common causes of seizures in newborn babies and children	✓	
Be aware of common epileptic syndromes	✓	
Understand the principles of initial and continuing anticonvulsant therapy in babies and children	✓	
Begin to understand the links between epilepsy and behaviour problems	✓	
Understand the pace and principles of the EEG and neuroimaging in investigation	✓	
Know about the long term implications of epilepsy	✓	
Know about common epileptic syndromes		✓
Understand the links between epilepsy and behaviour problems		✓
Know about the long term implications of epilepsy, including different epileptic syndromes and the risk of learning difficulties, accident or sudden death		✓
Be able to initiate treatment for acute continuing seizures	✓	
Be able to form a differential diagnosis	✓	
Work effectively with the multidisciplinary team	✓	
Be able to refer to intensive care teams appropriately and maintain patient safety until their team takes over	✓	
Be able to decide initial and continuing anticonvulsant therapy in babies and children	✓	
Be able to advise parents about education and safety	✓	

**Faints and 'funny turns'**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Be able to form a differential diagnosis for faints and 'funny turns'	✓	
Understand the investigations that may differentiate between these causes	✓	
Be able to initiate the investigations that may differentiate between these causes	✓	
Be able to make a likely diagnosis	✓	
Be able to explain likely diagnoses to parents	✓	

**Acute focal neurological signs**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Understand the implications of acute focal neurological signs	✓	
Understand the principles of investigation	✓	
Be able to demonstrate the signs	✓	
Begin to gain experience of interpretation of CT and MRI scans	✓	
Have experience of how diagnoses are given to parents	✓	
Be able to interpret the signs		✓
Have experience of interpretation of CT and MRI scans		✓
Be able to initiate consultation to give diagnoses to parents		✓

**Ataxia, clumsiness and abnormal movement patterns**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the common possible causes of ataxia, clumsiness and abnormal movement patterns	✓	
Know the indications for investigations	✓	
Be able to recognise the signs	✓	
Recognise which urgent investigations are needed	✓	

**Hypotonia, neuropathies and myopathies**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the common possible causes of hypotonia, neuropathies and myopathies	✓	
Know about the relevant neurophysiological and metabolic investigations	✓	
Be able to demonstrate the signs	✓	
Be able to form a likely differential diagnosis	✓	
Be able to elicit and interpret the signs		✓
Be able to initiate appropriate tests		✓

**Meningitis and altered consciousness**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the likely causes or pathogens of meningism and altered consciousness	✓	
Understand the principles of treatment	✓	
Know about prophylactic therapy for contacts of meningitis	✓	
Know when it is safe to perform a lumbar puncture	✓	
Know the principles of brain stem death	✓	
Recognise early signs of meningitis and encephalitis	✓	
Use a validated coma score	✓	
Recognise signs and implications of raised intra-cranial pressure	✓	
Initiate therapy appropriately	✓	
Call for help promptly	✓	
Recognise the need for urgent referral to a neurology specialist after bacterial meningitis	✓	
Assess and manage early presentations of meningitis and encephalitis		✓
Use a validated coma score		✓
Assess and initiate management of raised intra-cranial pressure		✓





**Neural tube defects and other congenital abnormalities**

Know about aetiological diagnosis of neural tube defects and other congenital abnormalities	Level 1 (S11-3)	Level 2 (S14-5)
Know about the ethical principles involved in management decisions	✓	
Know about aetiological diagnosis of neural tube defects, other congenital abnormalities and their prevention	✓	✓
Be able to recognise syndromes	✓	
Be able to communicate sympathetically with parents	✓	
Be able to recognise the signs and symptoms of blocked shunts		✓

**Trauma to central and peripheral nervous systems**

Be aware of the implications of severe head injury and the possibilities for rehabilitation	Level 1 (S11-3)	Level 2 (S14-5)
Know about other neurological traumas such as brachial plexus injury	✓	
Be aware of acute management and need to transfer appropriately	✓	
Recognise the phase of occupational and physiotherapy	✓	
Be able to lead initial acute management and transfer appropriately		✓
Work effectively with the multidisciplinary team to manage the medium and longer term applications and rehabilitation		✓

**Fever or illness in a child with complex disabilities**

Be aware of a range of diagnostic possibilities, including chest infection, aspiration, gastro-oesophageal reflux, otitis media, constipation, hip and joint problems, dental problems etc.	Level 1 (S11-3)	Level 2 (S14-5)
Know when and where to get help	✓	
Be able to assess child with complex disabilities who is unwell	✓	✓
Be able to recognise important indicators of specific conditions		

**COMMUNITY AND OUTPATIENT PRESENTATIONS**

**Neurodevelopmental regression**

Be familiar with the main investigations that will differentiate between the causes of neurodevelopmental regression and how to access further expert help	Level 1 (S11-3)	Level 2 (S14-5)
Understand the implications	✓	
Be able to assess development	✓	
Be able to recognise regression of developmental skills and refer appropriately for investigation		✓

**Disordered development**

Understand the common causes of disability, disordered development, and learning difficulties	Level 1 (S11-3)	Level 2 (S14-5)
Know about the current theories on the pathophysiology of cerebral palsy	✓	
Know about common secondary disabilities	✓	
Understand the complications of cerebral palsy and disordered development	✓	
Know about common secondary disabilities and co-morbidities		✓
Be aware of the work of the child development team or centre	✓	
Have experience of working with the child development team or centre		✓

Recognise common causes of disordered development, manage simple problems and refer complex difficulties (appropriately) for specialist investigation and treatment

**Speech and language delay including hearing loss**

Know the common causes	Level 1 (S11-3)	Level 2 (S14-5)
Be aware of the support available for hearing impaired children	✓	
Be aware of the importance of hearing assessment in children	✓	
Know about multi disciplinary investigation and therapy for those with more complex disorders		✓
Know the risk factors for sensorineural hearing impairment		✓
Know the principles of hearing testing at all ages		✓
Know the support available for hearing impaired children		✓
Know how to communicate with a hearing impaired child or language disordered child including the child with autism		✓
Understand the importance of hearing assessment in children with speech and language problems and autistic spectrum disorders		✓
Recognise when referral to a specialist is needed	✓	
Recognise the need for referral to audiology specialists or to an ENT surgeon	✓	
Be able to distinguish simple phonological delay from more significant disorders		✓
Be able to recognise abnormal speech and language patterns		✓
Recognise the need for referral to audiology specialists or to an ENT surgeon		✓
Recognise autistic features in disordered developmental assessments and know how to refer appropriately		✓

**Conductive hearing loss**

Know the common causes	Level 1 (S11-3)	Level 2 (S14-5)
Be aware of the principles of hearing tests at various ages	✓	
Know the principles of hearing testing at various ages and of management of hearing impairment	✓	
Begin to have experience of hearing tests at various ages	✓	
Be able to recognise when further assessment is required and how to assess it		✓

**Sensorineural hearing loss**

Know about the common causes	Level 1 (S11-3)	Level 2 (S14-5)
Be able to recognise when further assessment is required and how to access it, including investigations that may be appropriate	✓	
Be aware of the principles of management, including cochlear implantation and educational approaches to sensorineural hearing loss		✓
Experience how to communicate with a child with sensorineural hearing loss	✓	
Be able to recognise syndromes and situations where sensorineural hearing loss is likely to occur		✓
Be aware of the assessment of sensorineural hearing loss		✓
Be able to communicate with the child with sensorineural hearing loss		✓

**Weakness**

Know the possible causes	Level 1 (S11-3)	Level 2 (S14-5)
Know the possible causes of weakness and patterns of presentation	✓	
Be able to take a relevant history		✓

Be able to elicit and interpret appropriate signs		Level 1 (ST1-3)	Level 2 (ST4-5)
<b>Abnormal head size and shape</b>			
Be aware of the common causes of hydrocephalus, macrocephaly and microcephaly		✓	
Know how to recognise abnormal head shapes and to differentiate between serious and non serious causes			✓
Know the common causes of hydrocephalus, macrocephaly and microcephaly			✓
Be able to plot and interpret a head growth chart			✓
Be able to reach a likely diagnosis and initiate investigations for abnormal head growth			✓
Know about the insertion and ongoing management of ventricular-peritoneal shunts			✓
<b>Headache</b>			
Be aware of the possible biological, psychological and social factors that can contribute to headache		✓	
Know the possible biological, psychological and social factors that can contribute to headache			✓
Be able to recognise when headache may indicate serious illness		✓	
Be able to recognise when headache may indicate serious illness and arrange prompt investigations			✓
Be able to initiate appropriate investigations and treatment			✓
<b>Problems of language, vision and hearing</b>			
Be aware of the principles of testing		✓	
Know about the principles of testing			✓
Understand the common causes of sensory impairment, the various tests available and when they are appropriate			✓
Recognise when to refer for further assessment		✓	
Be able to identify infants and children at risk of language, hearing or visual impairment			✓
Be able to recognise when sensory impairment may contribute to developmental difficulties and to refer appropriately for further assessment			✓
<b>Specific learning difficulties</b>			
Be aware how specific learning difficulties present at school		✓	
Understand how specific learning difficulties present at school			✓
Recognise when to refer for further assessment		✓	
Be able to identify when specific learning difficulties might be present and how to refer appropriately for self assessment			✓

<b>Ophthalmology</b>		Level 1 (ST1-3)	Level 2 (ST4-5)
<b>GENERAL COMPETENCIES</b>			
Be able to examine the eye and recognise those abnormalities which require urgent referral or treatment		✓	
Be able to take a relevant history for a child with suspected visual impairment		✓	
Be able to use an ophthalmoscope to recognise an abnormal fundus and lens opacity		✓	
Know the principles of visual acuity testing at various ages		✓	
Be able to test for colour vision		✓	
Understand the microbiology and treatments for common eye infections including orbital cellulitis		✓	
Know about the eye manifestations of common genetic and systemic diseases		✓	
Recognise and interpret abnormal eye movements		✓	
Know about support at school and other resources for children with visual impairments		✓	
Be able to undertake visual acuity testing at various ages			✓
<b>Patient presenting with a red eye</b>			
Know the common causes of red eye		✓	
Be able to identify children who need referral		✓	
Be able to initiate investigations and manage appropriately		✓	
<b>Patient presenting with a possible squint</b>			
Know the causes of acute onset and the congenital causes of a squint		✓	
Be able to recognise abnormal alignment of the eyes and examine corneal reflexes		✓	
Know how to refer appropriately			✓
<b>Proptosis</b>			
Know about the congenital and acquired causes of proptosis		✓	
Know about the Terson test		✓	
Know how to undertake the Terson test			✓
<b>Proptosis</b>			
Know the common causes of proptosis		✓	
Be able to initiate appropriate investigations		✓	
Be able to examine for signs of relevant systemic disease		✓	
<b>Abnormal movement</b>			
Know the ocular and neurological causes of benign abnormal eye movements		✓	
Know about the implications of nystagmus and refer appropriately for further visual assessment		✓	
Be able to interpret clinical findings correctly		✓	
Be able to undertake a full neurological examination where appropriate		✓	





**Abnormal fundus**

Know the normal appearance of the retina	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the value of fundal examination in suspected child abuse cases and certain developmental syndromes	✓	✓
Be able to identify papilloedema, abnormal vessels and pigmentation	✓	
Be able to identify haemorrhage	✓	

**Visual impairment**

Know the common and preventable causes of visual impairment	Level 1 (ST1-3)	Level 2 (ST4-5)
Know about the investigations that might be used to find a cause		✓
Know about the specific developmental patterns that occur in the child with visual impairment		✓
Know about educational approaches to the child with visual impairment		✓
Be able to recognise congenital cataract and refer urgently for further management		✓
Have experience of assessment of the child with suspected visual impairment		✓

**Palliative Care**

GENERAL COMPETENCES

Be familiar with local and national guidelines on withdrawing and withholding treatment	Level 1 (ST1-3)	Level 2 (ST4-5)
Be familiar with guidelines on the management of sudden infant death	✓	
Be aware of legal and ethical issues relating to withdrawing life support	✓	
Recognise factors which determine when care of a patient becomes palliative	✓	
Know when the importance of seeking advice when treatment may not be in the best interests of a child	✓	
Know about appropriate therapeutic intervention in symptom control	✓	
Be aware of the ethical issues in therapeutic intervention in children with life-limiting conditions	✓	
Know about local opportunities for respite care, including hospice availability	✓	
Know the tests for brain stem death	✓	
Recognise loss and grief and their effects on the health and well-being of children, families and professionals	✓	
Be aware of local bereavement support services	✓	
Recognise the skills and experience of other professionals, acknowledge personal needs for support and the needs of other professionals involved in the care of the dying child for support networks	✓	
Understand the need for respect for the wishes of the child or your person particularly when these are different from those of the family and health professionals	✓	
Know about guidelines on the management of sudden infant death, including the RCPCH Kennedy report		✓
Know about the broad definition of palliative care in childhood		✓
Recognise factors which determine when care of a patient becomes palliative		✓

**Respiratory Medicine with ear, Nose and Throat**

**GENERAL COMPETENCES**

Have the knowledge and skills to be able to assess and initiate management of patients presenting with respiratory problems in acute and outpatient settings	Level 1 (ST1-3)	Level 2 (SH4-5)
Have the knowledge and understanding of factors relating to long term management of chronic respiratory problems		✓
Understand the life threatening nature of some of these conditions and when to call for help		✓
Recognise factors which suggest underlying or serious pathology		✓

**ACUTE PRESENTATIONS**

**Sore throat and/or mouth**

Know the causes of these complaints	Level 1 (ST1-3)	Level 2 (SH4-5)
Know appropriate therapies	✓	
Be able to manage these conditions		✓
Recognise features in the presentation which suggest serious pathology		✓

**Nose bleeds**

Know the common causes of nose bleeds	Level 1 (ST1-3)	Level 2 (SH4-5)
Recognise those with underlying pathology	✓	✓

**Snooring and obstructive sleep apnoea**

Know the causes of snooring	Level 1 (ST1-3)	Level 2 (SH4-5)
Be aware of complications of this presentation	✓	
Understand the indications for sleep studies	✓	
Recognise when referral to an ENT surgeon is appropriate	✓	
Be able to refer appropriately to an ENT surgeon		✓

**Earache**

Know the common causes and complications	Level 1 (ST1-3)	Level 2 (SH4-5)
Know the risk factors for otitis media with effusion	✓	
Understand the vulnerability of children with cleft palate	✓	
Recognise an abnormal ear drum	✓	
Recognise when to treat with antibiotics	✓	
Recognise when to refer to an audiology specialist or an ENT surgeon	✓	
Be able to manage this condition		✓
Be able to treat with antibiotics where appropriate		✓

**Acute stridor**

Understand the potentially life-threatening nature of this condition	Level 1 (ST1-3)	Level 2 (SH4-5)
Know about aetiology and infective causes e.g. epiglottitis, laryngotracheitis, retropharyngeal abscess, and foreign body	✓	
Recognise when to request help from a senior colleague	✓	
Recognise children with existing chronic upper airway problems	✓	

**Be able to manage this condition**

Level 1 (ST1-3)	Level 2 (SH4-5)
✓	
✓	
✓	
✓	

**Acute severe asthma**

Be familiar with the British Thoracic Society guidelines for management	Level 1 (ST1-3)	Level 2 (SH4-5)
Be able to assess the severity of an asthma attack	✓	
Be able to institute appropriate emergency treatment	✓	
Recognise when more senior help is needed	✓	
Be able to lead treatment of severe asthma and review ongoing treatment before discharge		✓

**Lower respiratory tract infection (including pneumonia and bronchiolitis)**

Be familiar with the causes of respiratory tract infections	Level 1 (ST1-3)	Level 2 (SH4-5)
Know appropriate therapies	✓	
Be familiar with indicators of severity	✓	
Know the causes of respiratory tract infections		✓
Know indicators of severity		✓
Be able to initiate appropriate therapies	✓	
Be able to recognise patients requiring intensive care	✓	
Be able to recognise complications e.g. empyema	✓	
Be able to manage these infections		✓
Be able to recognise complications e.g. empyema and manage appropriately		✓

**Respiratory failure**

Know the indications for ventilation	Level 1 (ST1-3)	Level 2 (SH4-5)
Be aware of the agreed resuscitation plans for individual patients	✓	
Initiate urgent assessment and treatment including assisted ventilation	✓	
Liaise with more senior paediatricians, anaesthetists and intensivists when appropriate		✓

**OUTPATIENT PRESENTATIONS**

**Cervical lymphadenopathy**

Know the causes of cervical lymphadenopathy	Level 1 (ST1-3)	Level 2 (SH4-5)
Recognise when investigation and surgical intervention is needed	✓	

**Chronic stridor**

Know the causes of chronic stridor	Level 1 (ST1-3)	Level 2 (SH4-5)
Recognise when and how to investigate	✓	





**Asthma**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Be familiar with the British Thoracic Society guidelines for management of asthma	✓	
Know about the patterns of asthma and contributing factors	✓	
Know about the complications of long term use of medications for asthma	✓	
Institute age-appropriate individualised management plan for asthma	✓	
Teach children how to use a peak flow meter and diary	✓	
Teach and assess inhaler technique	✓	
Be able to modify an asthma management plan appropriately		✓
Be aware of what needs to be done to ensure the child has access to emergency treatment at school and other settings		✓

**Recurrent or chronic chestiness**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know the respiratory and non-respiratory causes including chronic aspiration, of recurrent or chronic chestiness	✓	
Know about predisposing conditions such as neuromuscular and skeletal disorders	✓	
Know about predisposing conditions such as neuromuscular and skeletal disorders and immunodeficiency		✓
Be aware of the role of bronchoscopy, pH studies and video-fluoroscopy	✓	
Know about the role of bronchoscopy, pH studies and video-fluoroscopy		✓
Recognise features in the presentation which suggest serious or unusual pathology e.g. atypical presentations of cystic fibrosis		✓
Know how to perform and interpret basic lung function tests		✓

**Cystic fibrosis**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know and understand the pathophysiology and natural history of cystic fibrosis	✓	
Understand the principles of treatment	✓	
Understand the diagnostic tests available		✓
Work with a multi-disciplinary team, particularly physiotherapy and dieticians	✓	

**Safeguarding**

**ACUTE PRESENTATIONS**

**Physical Injury**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know how to assess in relation to history, developmental stage and ability		✓
Know appropriate investigations when child abuse is a possibility e.g. skeletal survey when appropriate		✓
Be aware of the impossibility of dating bruising		✓
Be able to initiate appropriate investigations		✓
Be able to recognise new and old fractures on an X-ray		✓
Be able to initiate a multi-disciplinary investigation with a more experienced colleague		✓

**Head Injury**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know about acute and chronic presentations of subdural haemorrhage		✓
Know that this may cause symptoms mistaken as having a metabolic or infective cause in an infant		✓
Know the appropriate investigations and involvement of other disciplines e.g. ophthalmology, radiology		✓
Know that retinal haemorrhages may be difficult to detect		✓
Know that, when there is suspicion of non-accidental head injury, an ophthalmologist should be involved		✓
Be able to perform fundoscopy and recognise retinal haemorrhage		✓
Be able to initiate emergency management and urgent investigations		✓
Be able to co-operate in multi-disciplinary and multi-agency working		✓

**Vaginal or Rectal Bleeding**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Know that sexual abuse forms part of the differential diagnosis		✓
Know when an expert genital examination is needed and the role of topography as part of that		✓
Know about the risk of acquired sexually transmitted infections		✓
Be able to refer to a colleague experienced in examination for sexual abuse		✓

**Self-Harm**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Recognise this as an expression of distress, acute or long-term		✓
Recognise repeated self-harm as indicating serious emotional distress		✓
Be able to refer to the CAMHS team		✓

**Anorectic episodes as an infant**

	Level 1 (ST1-3)	Level 2 (ST4-5)
Be aware of this as a possible presentation of imposed anorexia/obstruction and know the indicators that this might be the case		✓
Understand the life-threatening nature of imposed anorexia/obstruction		✓
Refer promptly to an experienced colleague for help		✓

OUTPATIENT PRESENTATIONS

**Faltering growth**

Be aware of the high incidence of a non-organic cause	Level 2 (SH-5)	✓
Be able to instigate appropriate investigations		✓
Be able to institute multi-agency involvement with the help of an experienced colleague		✓

**Soiling/Wetting**

Know that this can be a presentation of emotional abuse or neglect, sometimes in association with other forms of abuse, including sexual abuse	Level 1 (ST1-3)	✓
Know the other physical, psychological or maturational problems leading to soiling and wetting		✓
Be able, with appropriate history and observations, to elucidate factors within the child's life that may be causing these problems		✓

**Vaginal Discharge**

Know that this may be a presentation of sexual abuse	Level 2 (SH-5)	✓
Know when an expert genital examination is needed and the role of colposcopy as part of that		✓
Know about the many other causes of vaginal discharge		✓
Know when to consult with a senior colleague experienced in sexual abuse when there is any question of this		✓

**Behavioural Change**

Know the association of this with abuse, including emotional abuse, neglect and sexual abuse	Level 1 (ST1-3)	✓
Be able to take a history to elucidate social and emotional factors that may be involved		✓
Be able to seek the help of a senior colleague		✓

**Repeated or bizarre physical symptoms**

Know the possible signs of factitious and induced illness	Level 2 (SH-5)	✓
Know how to recognise the over-anxious parent		✓
Know the pathways to gather medical, educational and social information on the child		✓
Be able to refer to a senior experienced colleague		✓

**Patient Safety**

Patient safety is embedded throughout the competency framework and included within assessments. Patient safety is an inherent part of the role of the paediatrician in ensuring the health and well-being of children, their parents, families and carers, to themselves and the healthcare team around them. Patient safety can be found more explicitly under the sections on: safeguarding procedures, prescribing, carrying out audits and standard setting as well as probing.

**Medical Leadership Framework**

The Medical Leadership Framework is embedded throughout the competency framework and its associated assessment system. The assessment strategy allows for the elements of Medical Leadership Framework to be assessed by using the existing tools. Whilst many of the competences can be found under the assessment standards 29-33, competences can be found within other assessment standard. The mapping document is available on the college website. The Medical Leadership Framework can be addressed within many learning opportunities e.g. involvement in rota management, involvement in departmental inductions, guideline development, audits that lead to implementation and the evaluation of change, supervision and supporting of colleagues, attending and contributing to meetings.



**About Assessments**

*Reassuring the individual, the profession and the public, as well as employers and regulatory bodies that a trainee is fit to practise.*

The educational purposes for the assessment system are:

- To support learning and progression across the curriculum and
- To assess the level of competence achieved at different stages in that progression

The content of the assessment system grew from the curriculum and the learning objectives it set out. These can be generic, specialty-specific and/or specific to sub-specialties. For example all trainees will be expected to engage their patients effectively in consultations, whilst paediatric trainees have a particular responsibility to be able to work effectively in triadic consultations. The assessment system therefore consists of a range of instruments designed to support learning and assessment in these different areas of work in paediatrics, which, in turn were mapped to Good Medical Practice and then the GMC domains.

The table of categories of assessments developed by the AoRMC, PMLCB and MMC (developing and maintaining an assessment system – A PMLCB guide to good practice January 2007 Appendix 3 p.42) proved useful in informing the thinking about the initial development of a range of standards and instruments derived from and reflecting the different areas of content in the curriculum.

The assessment system is to be used to reassure the trainee and provide the trainee with feedback about their own knowledge, skills and attitudes and the opportunity to show progression and development through their training programme. In order to achieve this, all areas of the training curriculum need to be sampled and assessed in the most appropriate ways, according to the nature of the knowledge or skill being assessed. The purpose of the individual assessment instruments within the system will therefore vary.

**The assessment system consists of**i) **MRCPC examination**

- The MRCPC examination is taken in stages, namely Parts 1A, 1B, Part 2 Written Examination and Clinical Examination. Completion of all the parts will be essential for the award of MRCPC and progression in training in paediatrics beyond Level 1 (see later).
- The MRCPC Part 1 is a written examination in two parts – 1A and 1B. Part 1A will be taken by both those trainees intending to progress to the Diploma in Child Health Clinical Examination and by those intending to progress to completion of MRCPC. Both papers 1A and 1B consist of multiple true/false questions, best of five questions and extended matching questions.
- Part 1A focuses on basic areas of child health and on the conditions that are likely to be seen in 6 to 12 months of hospital, community or primary care practice. Areas of competence such as Good Clinical Care are covered in this examination, and assessments will be principally tests of knowledge and the application of knowledge.



- Part 1B focuses on knowledge and understanding of basic science fundamental to the practice of paediatrics and child health, and on problem-solving skills not tested in Part 1A.
- MRCPCH examination Part 2 is a written examination which tests the application of clinical and scientific knowledge, clinical judgement, case management including diagnosis, investigation, and care planning, clinical prioritisation and ethical practice. The examination consists of questions in the format of 'best of list, choose 1' from many, and 'extended matching' on photographic material, data interpretation and case histories.

TABLE 1

	Part 1 training*	Part 2 training	Part 3 training
EP1	152	152	152
EP2	152	152	152
EP3	152	152	152
EP4	152	152	152
EP5	152	152	152
EP6	152	152	152
EP7	152	152	152
EP8	152	152	152
EP9	152	152	152
EP10	152	152	152
EP11	152	152	152
EP12	152	152	152
EP13	152	152	152
EP14	152	152	152
EP15	152	152	152
EP16	152	152	152
EP17	152	152	152
EP18	152	152	152
EP19	152	152	152
EP20	152	152	152
EP21	152	152	152
EP22	152	152	152
EP23	152	152	152
EP24	152	152	152
EP25	152	152	152
EP26	152	152	152
EP27	152	152	152
EP28	152	152	152
EP29	152	152	152
EP30	152	152	152
EP31	152	152	152
EP32	152	152	152
EP33	152	152	152
EP34	152	152	152
EP35	152	152	152
EP36	152	152	152
EP37	152	152	152
EP38	152	152	152
EP39	152	152	152
EP40	152	152	152
EP41	152	152	152
EP42	152	152	152
EP43	152	152	152
EP44	152	152	152
EP45	152	152	152
EP46	152	152	152
EP47	152	152	152
EP48	152	152	152
EP49	152	152	152
EP50	152	152	152
EP51	152	152	152
EP52	152	152	152
EP53	152	152	152
EP54	152	152	152
EP55	152	152	152
EP56	152	152	152
EP57	152	152	152
EP58	152	152	152
EP59	152	152	152
EP60	152	152	152
EP61	152	152	152
EP62	152	152	152
EP63	152	152	152
EP64	152	152	152
EP65	152	152	152
EP66	152	152	152
EP67	152	152	152
EP68	152	152	152
EP69	152	152	152
EP70	152	152	152
EP71	152	152	152
EP72	152	152	152
EP73	152	152	152
EP74	152	152	152
EP75	152	152	152
EP76	152	152	152
EP77	152	152	152
EP78	152	152	152
EP79	152	152	152
EP80	152	152	152
EP81	152	152	152
EP82	152	152	152
EP83	152	152	152
EP84	152	152	152
EP85	152	152	152
EP86	152	152	152
EP87	152	152	152
EP88	152	152	152
EP89	152	152	152
EP90	152	152	152
EP91	152	152	152
EP92	152	152	152
EP93	152	152	152
EP94	152	152	152
EP95	152	152	152
EP96	152	152	152
EP97	152	152	152
EP98	152	152	152
EP99	152	152	152
EP100	152	152	152

\*Years and the origin are subject to annual updates for support training (May 2017/2018)

Table 1 – Minimum no. of assessments required

- ii) **Assessment of performance**
  - a. **ePAED MSF (multisource feedback)**  
The Sheffield Peer Review Assessment Tool, originally validated for use in paediatrics (Mather 2005), has been adapted to each level of training and is now available electronically (ePAED MSF). This instrument is invaluable for assessing a trainee's performance over time, in everyday practice.
  - b. **Minicex**  
(Holmoe 2002, 2004 & Worm 2005). The instrument developed for use in Foundation has been modified to map to paediatric assessment standards. The instrument enables us to assess trainees in real patient encounters.
  - c. **ChD**  
(Dowes 2005 & Dowes 2005). The instrument developed for use in Foundation has been modified to map to paediatric assessment standards. This instrument is particularly valuable for the assessment of a trainee's critical reasoning skills and the ability to bring an analytical approach to diagnosis and management of paediatric conditions.
  - d. **SML**  
Sheffield Assessment Instrument for Letters (SAII) has been developed and validated for use in paediatrics (Crosley 2001, Fox 2004). The instrument assesses a trainee's competence in written communications in everyday practice, over time.
  - e. **Paed CCF**  
(Originally SHEFFPAT) has been developed and validated for paediatrics and seeks the views of parents and guardians about the care of their child.
  - f. **DOPS**  
Specific instruments had not been developed for paediatrics but those developed for Foundation were considered appropriate to assess most practical procedures and a range of practical procedures have been identified for assessment.
- iii) **Portfolio Review**  
Trainees are expected to maintain evidence of their progression in a portfolio. This will be reviewed by their educational supervisor prior to the completion of a structured report and will contribute to the overall assessment. The portfolio, although not an assessment instrument itself will underpin learning from the new curriculum and act as a platform for trainees and trainees to manage various elements of professional development, demonstrate curriculum coverage and assessments required. The portfolio will contain:
  - Educational supervision documentation
  - Professional development plan
  - Reflective entries
  - Skills log
  - Record of training events
  - Assessment reports
  - Trainer reports
  - Teaching resources
  - Audits
  - Clinical governance





**Annual Review of Competency Progression (ARCP)**

**Purpose**

The ARCP is a formal process that links to their achievement of the competences laid out in the curriculum and their progression. It will allow all stakeholders to be assured that the curriculum is being covered and its assessment strategy is being achieved at a suitable rate of progression and that the experiences of the trainee have allowed for the acquisition of the competences. It also allows for a formal summary of the trainee's progression to be recorded leading to the final ARCP that confirms the attainment of the complete curriculum and assessments, supporting the PG Dean in recommending to the RCPCH the award of CCT.

**Role of Trainee**

The trainee must ensure that all relevant paperwork is provided on time and that their e-portfolio is kept up to date with relevant records of training, reflective notes, workplace-based assessments, exam results and their own teaching and training resources.

**Role of Educational Supervisor**

The educational supervisor must supply a trainer's report that details how the trainee has progressed over the year and areas of the curriculum and assessment that has been achieved, relating it to the development plan of the trainee and the college guidance of suitable evidence of progression by triangulating all the evidence provided by the trainee e.g. completion of MRCPCH, workplace-based assessments, e-portfolio contributions (teaching, reflection, audits, quality improvement)

**Role of the ARCP panel**

The ARCP panel reviews all the evidence provided to ensure the trainee is ready to progress. If the trainee is successful i.e. Outcome 1 the then Panel must complete the relevant documents to ensure records of training are held to support the trainees' final CCT application.

The panel will discuss any additional training needs of an individual trainee with the Postgraduate Dean to allow for successful progression, feedback to the educational supervisor on the quality of the trainee's report and gain feedback on the training that is being delivered.

**Role of External Advisor**

To sample a number of ARCP decisions to ensure consistency in approach and decision-making and provide a report to the Head of School and the College. To highlight to the panel and discrepancies and be a source of advice if there are concerns or clarification needed.

**Appeals**

Appeals against assessments and ARCPs must follow local procedures within the School and the Deanery.

For further advice see the Gold Guide (<https://www.mmc.mhs.uk/pdf/GoldGuide%2009%20-%2017%20Edition%20V1.pdf>)

**Assessment Standards for Levels 1, 2 and 3**

The trainee will demonstrate:

GMC Framework Knowledge, skill and performance	Standard	Level 1	Level 2	Level 3
Knowledge, skill and performance	1	an understanding of the roles and responsibilities of paediatricians	a commitment in their practice to the roles and responsibilities of paediatricians	a commitment to advocate for the individual child in terms of particular context
Knowledge, skill and performance	2	effective responses to challenge, complexity and stress in paediatrics	increasing credibility and independence in response to challenge, and stress in paediatrics	responsibility for an effective response to complex challenges and stress in paediatrics
Knowledge, skill and performance	3	advanced neonatal and paediatric life support skills	leadership skills in advanced neonatal and paediatric life support	effective responses to life-threatening situations and to unpredictability in paediatric clinical situations
Knowledge, skill and performance	4	effective skills in three-way consultation and examination	responsibility for an effective three-way consultation and examination	responsibility for an analytic and focused three-way consultation and examination
Knowledge, skill and performance	5	effective skills in paediatric assessment	responsibility for conducting effective paediatric assessments and interpreting findings appropriately	commitment to focused and analytic assessments of common and complex clinical problems in paediatrics
Knowledge, skill and performance	6	skills in formulating an appropriate differential diagnosis in paediatrics	improving skills in formulating an appropriate differential diagnosis in paediatrics	effective skills in making a safe decision about the most likely diagnosis in paediatrics
Knowledge, skill and performance	7	effective initial management of ill-health and clinical conditions in paediatrics seeking additional advice and opinion as appropriate (as outlined in the Framework of Competences for Level 1 in Paediatrics)	responsibility for the effective management of common acute and chronic conditions in paediatrics seeking additional advice and opinion as appropriate (as outlined in the Framework of Competences for Level 2 in Paediatrics)	leadership skills in the management of common and complex conditions in general paediatrics and paediatric sub-specialties seeking additional advice and opinion as appropriate (as outlined in the Framework of Competences for Level 3 in General Paediatrics and the Paediatric sub-specialties)
Knowledge, skill and performance	8	knowledge, understanding and recognition of common behavioural, emotional and psychosocial aspects of illness in children and families	effective skills in recognising and responding to behavioural, emotional and psychosocial aspects of illness in children and families	effective skills in ensuring the management of behavioural, emotional and psychosocial aspects of illness in children and families
Knowledge, skill and performance	9	safe practical skills in paediatrics	effective skills in performing and supervising common practical procedures in paediatrics, ensuring patient safety	expertise in a range of practical procedures in paediatrics specific to general and sub-specialist training
Knowledge, skill and performance	10	clear record-keeping and report-writing	improving skills in written communications for a range of audiences	effective skills in written communications for a range of audiences, for children and their families, colleagues and other organisations
Knowledge, skill and performance	11	reliable responses to investigations in paediatrics	effective leadership skills in undertaking initial investigations in children, based on an understanding of the risks and benefits in each case	effective collaboration with other specialists in using and interpreting complex investigations undertaken in children

Curriculum for Paediatric Nephrology

24	Knowledge, skill and performance Communication, partnership and teamwork Safety and Quality	a positive approach to receiving mentoring and educational supervision	a commitment to providing positive experiences of mentoring and educational supervision	effective skills in the training, supervision and assessment of a wide range of colleagues working in the care of children and young people
25	Knowledge, skill and performance	an understanding of the need for an ethical and rigorous approach to research in paediatrics	an understanding of research methods and methodology and an involvement in research activities and publications	understanding and application of complex methodological approaches in research in paediatrics
26	Communication, partnership and teamwork Maintaining trust	an understanding of effective communication and interpersonal skills with children of all ages	a commitment to effective communication and interpersonal skills with children of all ages	effective strategies to engage children in consultations and in the management of their care
27	Communication, partnership and teamwork Maintaining trust	empathy and sensitivity and skills in engaging the trust of children and consent from children and their families	improving skills in building relationships of trust with children and their families	effective skills in conveying information, including death and bereavement, with young people and their families
28	Communication, partnership and teamwork Maintaining trust	understanding of listening skills and basic skills in giving information and advice to young people and their families	increasing confidence in giving advice to young people and their families	effective skills in giving information and advice to young people and their families in common and complex cases
29	Communication, partnership and teamwork	effective communication and interpersonal skills with colleagues	skills in ensuring effective relationships with and between colleagues	positive and constructive relationships within teams of colleagues from a wide range of professional contexts
30	Communication, partnership and teamwork	professional respect for the contribution of colleagues in a range of roles in paediatric practice	increasing confidence in team-work with a range of external agencies about the needs of children	a commitment to effective multi-agency and multi-disciplinary team-working for the care of children
31	Communication, partnership and teamwork	effective time-management skills	effective leadership and management skills in clinical and non-clinical settings	effective managerial skills in taking on a positive managerial role to support effective service provision
32	Knowledge, skill and performance Safety and Quality Communication, partnership and teamwork	effective handover, referral and discharge procedures in paediatrics	effective skills in ensuring handover, referral and discharge procedures in paediatrics	effective leadership skills in the organisation of paediatric team-working and effective handover
33	Communication, partnership and teamwork Safety and Quality	an understanding of the effects of local, national and international policies on their work and on the health of children	experience and understanding of working within international, national and local legal and health structures and organisations involved in the care of children	effective skills in promoting clinical practice through engagement with local, national and international organisations involved in the care of children
34	Maintaining trust Safety and Quality	ethical personal and professional practice	sound ethical personal and professional practice	exemplary professional and personal conduct so as to act as a role model to others
35	Maintaining trust	reliability and responsibility in ensuring their accessibility to colleagues and patients and their families	continued responsibility for their reliability and accessibility to colleagues, patients and their families	responsibility for ensuring their own reliability and accessibility and that of others in the team
36	Maintaining trust, Safety and Quality	an importance of self-awareness and a responsible approach to personal health, stress and well-being	a consistently responsible approach to personal health, stress and well-being	effective skills in ensuring their own responsible approach to personal health, stress and well-being and that of others

Curriculum for Paediatric Nephrology

12	Knowledge, skill and performance	improving skills in safe prescribing in paediatrics and in advising others appropriately	responsibility for safe prescribing in paediatrics in common and complex situations and for the supervision of others
13	Knowledge, skill and performance Safety and Quality	effective skills in the assessment of cases of suspected safeguarding issues and in contributing to their management	effective skills in advising other agencies in safeguarding cases
14	Knowledge, skill and performance	knowledge of the science-base for paediatrics (as outlined in the Framework of Competences for Level 1 in Paediatrics)	detailed, up-to-date knowledge of the science-base for general paediatrics or a paediatric sub-specialty (as outlined in the Framework of Competences for Level 3 in General Paediatrics and the sub-specialties)
15	Knowledge, skill and performance	knowledge of common and serious paediatric conditions and their management	detailed knowledge of common and serious paediatric conditions and their management in General Paediatrics or in a Paediatric sub-specialty
16	Knowledge, skill and performance	an understanding of growth, development, health and well-being in paediatrics	effective skills in recognising and responding effectively to disordered growth and development of any kind in paediatrics
17	Knowledge, skill and performance Safety and Quality	an understanding of health promotion and public health issues in paediatrics	involvement in health promotion activities specific to general paediatrics or a paediatric sub-specialty
18	Knowledge, skill and performance Safety and Quality	an understanding of an evidence-based approach to paediatric practice	independent thinking to enable them to challenge guidelines and procedures in paediatrics where appropriate
19	Knowledge, skill and performance Safety and Quality	an understanding of clinical governance activities and audit in paediatric practice	an application of risk assessment strategies through involvement in the development, evaluation and implementation of policy and clinical governance activities in paediatric practice
20	Knowledge, skill and performance Safety and Quality	a reflective approach to improvement of professional practice as a paediatrician	effective skills to maintain and develop knowledge and clinical skills required of a specialist in paediatrics
21	Knowledge, skill and performance Communication, partnership and teamwork Maintaining trust	an understanding of equality and diversity in paediatric practice	responsibility for ensuring an open-minded approach to equality and diversity in the paediatric team
22	Knowledge, skill and performance	knowledge of the law regarding paediatric practice	detailed knowledge of the law regarding death, data protection, confidentiality and consent in paediatrics
23	Knowledge, skill and performance Safety and Quality	an understanding of effective teaching in paediatrics	a commitment to effective teaching and training of colleagues working in different contexts in the care of children and young people





Assessment Blueprint

Assessment Standards: Blueprints for Level 1

Standards	By the end of Level 1 training, trainees will demonstrate:	Part 1A & 1B	Part 2 Written	Part 2 Clinical	E-PAED MSF	CBD	MiniCeX	DOPS	Portfolio	Others to be developed	Comment
<b>The duties of a doctor</b>											
1	an understanding of the roles and responsibilities of paediatricians	✓									
<b>Good clinical care</b>											
2	effective responses to challenge, complexity and stress in paediatrics	✓	✓	✓	✓	✓	✓	✓	✓		
3	advanced neonatal and paediatric life support skills						✓				APLS/NLS or equivalent
4	effective skills in three-way consultation and examination		✓	✓	✓	✓	✓	✓			
5	effective skills in paediatric assessment		✓	✓	✓	✓	✓	✓			
6	skills in formulating an appropriate differential diagnosis in paediatrics		✓	✓	✓	✓	✓	✓			
7	effective initial management of ill health and clinical conditions in paediatrics seeking additional advice and opinion as appropriate (as outlined in the Framework of Competences for Level 1 in Paediatrics)		✓	✓	✓	✓	✓	✓			
8	knowledge, understanding and recognition of common behavioural, emotional and psychosocial aspects of illness in children and families	✓	✓	✓	✓	✓					
9	safe practical skills in paediatrics				✓		✓		✓		
10	clear record-keeping and report-writing				✓				✓		
11	reliable responses to investigations in paediatrics	✓	✓	✓	✓	✓	✓	✓			
12	knowledge and skills in safe prescribing of common drugs in paediatrics	✓	✓	✓	✓	✓	✓	✓			
13	an understanding of safeguarding and vulnerability in paediatrics	✓	✓						✓		RCFCH Level 1 or equivalent

Standards  
By the end of Level 1 training, trainees will demonstrate:

Standards	By the end of Level 1 training, trainees will demonstrate:	Part 1A & 1B	Part 2 Written	Part 2 Clinical	E-PAED MSF	CBD	MiniCeX	DOPS	Portfolio	Others to be developed	Comment
<b>Maintaining good medical practice</b>											
14	knowledge of the science-base for paediatrics (as outlined in the Framework of Competences for Level 1 in Paediatrics)	✓	✓	✓							
15	knowledge of common and serious paediatric conditions and their management	✓	✓	✓							
16	an understanding of growth, development, health and well-being in paediatrics	✓	✓	✓							
<b>Knowledge, Skills and Performance, Safety and Quality</b>											
17	an understanding of health promotion and public health issues in paediatrics	✓	✓								
18	an understanding of an evidence-based approach to paediatric practice	✓	✓	✓	✓	✓	✓	✓	✓		
19	an understanding of clinical governance activities and audit in paediatric practice	✓	✓	✓	✓	✓	✓	✓	✓		
20	a reflective approach to improvement of professional practice as a paediatrician				✓				✓		
21	an understanding of equality and diversity in paediatric practice		✓	✓							
22	knowledge of the law regarding paediatric practice	✓	✓	✓	✓	✓	✓	✓			
<b>Teaching and training, appraising and assessing Knowledge, Skills and Performance, Safety and Quality, Communication, Partnership and Teamwork</b>											
23	an understanding of effective teaching in paediatrics		✓	✓	✓	✓	✓	✓	✓	✓	Presentations with comments from supervisor
24	a positive approach to receiving mentoring and educational supervision				✓				✓		
25	an understanding of the need for an ethical and rigorous approach to research in paediatrics		✓								

Standards	By the end of Level 1 training, trainees will demonstrate:	Part 1A & 1B					Part 2 Written					Comment
		Part 2 Clinical	E-PAED MSF	CBD	MiniCex	DOPS	Portfolio	Others to be developed				
<b>Relationships with patients</b>												
Communication, Partnership and Teamwork, Maintaining Trust												
26	an understanding of effective communication and interpersonal skills with children of all ages	✓	✓	✓	✓							

27	empathy and sensitivity and skills in engaging the trust of and consent from children and their families	✓	✓	✓	✓							
28	understanding of listening skills and basic skills in giving information and advice to young people and their families	✓	✓	✓	✓							
<b>Working with colleagues</b>												
Communication, Partnership and Teamwork												
29	effective communication and interpersonal skills with colleagues	✓	✓	✓	✓							
30	professional respect for the contribution of colleagues in a range of roles in paediatric practice	✓	✓	✓	✓							
31	effective time-management skills	✓	✓	✓	✓							
<b>Communication, Partnership and Teamwork, Safety and Quality, Knowledge Skills and Performance</b>												
32	effective handover, referral and discharge procedures in paediatrics									✓		
33	an understanding of the effects of local, national and international policies on their work and on the health of children	✓	✓	✓	✓							
<b>Probity</b>												
Maintaining Trust, Safety and Quality												
34	sound ethical personal and professional practice	✓	✓	✓	✓							
35	reliability and responsibility in ensuring their accessibility to colleagues and patients and their families	✓	✓	✓	✓							
<b>Health</b>												
36	an understanding of the importance of self-awareness and a responsible approach to personal health, stress and well-being	✓	✓	✓	✓							



Assessment Standards: Blueprints for Level 2

Standards	By the end of Level 2 training, trainees will demonstrate:	E-PAED MSF							MiniCex							DOPS							Portfolio							Others to be developed	Comment
		CBD	MiniCex	SAIL	DOPS	Portfolio	Others to be developed	Comment																							
<b>The duties of a doctor Performance</b>																															
1	a commitment in their practice to the roles and responsibilities of paediatricians	✓																													
<b>Good clinical care Performance</b>																															
Knowledge, Skills and Performance																															
2	increasing confidence, credibility and independence in response to challenge and stress in paediatrics	✓	✓	✓	✓																										
3	leadership skills in advanced neonatal and paediatric life support	✓																								Up to date APLS or equivalent					
4	responsibility for an effective three-way consultation and examination	✓	✓	✓	✓																										
5	responsibility for conducting effective paediatric assessments and interpreting findings appropriately	✓	✓	✓	✓																										
6	improving skills in formulating an appropriate differential diagnosis in paediatrics	✓	✓	✓	✓																										
7	responsibility for the effective management of common acute and chronic conditions in paediatrics seeking additional advice and opinion as appropriate (as outlined in the Framework of Competences for Level 2 in Paediatrics)	✓	✓	✓	✓																										
8	effective skills in recognising and responding to behavioural, emotional and psychosocial aspects of illness in children and families	✓	✓	✓	✓																										
9	effective skills in performing and supervising common practical procedures in paediatrics, ensuring patient safety	✓	✓	✓	✓																										
10	improving skills in written communications for a range of audiences	✓	✓	✓	✓																										
11	effective leadership skills in undertaking initial investigations in children, based on an understanding of the risks and benefits in each case	✓	✓	✓	✓																										
12	improving skills in safe prescribing in paediatrics and in advising others appropriately	✓	✓	✓	✓																										
13	effective skills in the assessment of cases of suspected safeguarding issues and in contributing to their management	✓	✓	✓	✓																										



Standards	By the end of Level 2 training, trainees will demonstrate:	Knowledge, Skills and Performance						Comment
		E-PAED MSF	CBD	MinicEx	SAIL	DOPS	Portfolio	
<b>Maintaining good medical practice</b>								
14	sound knowledge of the science-base for paediatrics (as outlined in the Framework of Competences for Level 2 in Paediatrics)	✓						
15	extended knowledge of common and serious paediatric conditions and their management	✓						
16	effective skills in the assessment and management of children and young people with normal and abnormal growth and development	✓						
<b>Knowledge, Skills and Performance, Safety and Quality</b>								
17	a commitment to health promotion activities for children and their families					✓		
18	development and refinement of evidence-based clinical guidelines in paediatrics	✓					✓	
19	participation in clinical governance activities and audit in paediatric practice	✓					✓	
20	a commitment to reflective practice and continuing improvement of practice as a paediatrician	✓					✓	
21	a commitment to an open-minded approach to equality and diversity in their role as a paediatrician	✓					✓	
22	knowledge of the law regarding death, data protection, confidentiality and consent in paediatrics	✓					✓	
<b>Teaching and training, appraising and assessing</b>								
Knowledge, Skills and Performance, Safety and Quality, Communication, Partnership and Teamwork								
23	skills in effective teaching in paediatrics	✓				✓*		* Presentations with comments from supervisor
24	a commitment to providing positive experiences of mentoring and educational supervision	✓					✓	
25	an understanding of research methods and methodology and an involvement in research activities and publications						✓	
<b>Relationships with patients</b>								
Communication, Partnership and Teamwork, Maintaining Trust								
26	a commitment to effective communication and interpersonal skills with children of all ages	✓						
27	improving skills in building relationships of trust with children and their families	✓						
28	increasing confidence in giving advice to young people and their families	✓						

Standards	By the end of Level 2 training, trainees will demonstrate:	Communication, Partnership and Teamwork						Comment
		E-PAED MSF	CBD	MinicEx	SAIL	DOPS	Portfolio	
<b>Working with colleagues</b>								
29	skills in ensuring effective relationships with and between colleagues	✓						
30	increasing confidence in team-work and the ability to collaborate with a range of external agencies about the needs of children	✓						
31	effective leadership and management skills in clinical and non-clinical settings	✓						
<b>Communication, Partnership and Teamwork, Safety and Quality, Knowledge Skills and Performance</b>								
32	effective skills in ensuring handover, referral and discharge procedures in paediatrics					✓		
33	experience and understanding of working within international, national and local legal and health structures and organisations involved in the care of children	✓						
<b>Probity</b>								
Maintaining Trust, Safety and Quality								
34	sound ethical personal and professional practice	✓						✓
35	continued responsibility for their reliability and accessibility to colleagues, patients and their families	✓						✓
<b>Health</b>								
36	a consistently responsible approach to personal health, stress and well-being	✓						✓

Assessment Standards: Blueprints for Level 3

Standards	By the end of Level 3 training, trainees will demonstrate:	E-PAED MSF							Comment
		MinicEx	SAIL	DOPS	Portfolio	Others to be developed (STTA)	Paed CCF		
<b>The duties of a doctor</b>		<b>Knowledge, Skills Performance</b>							
1	a commitment to advocate for the individual child in her/his particular context	✓							
<b>Good clinical care</b>									
2	responsibility for an effective response to complex challenges and stress in paediatrics	✓	✓		✓			STTA	
3	effective responses to life-threatening situations and to unpredictability in paediatric clinical situations	✓			✓				
4	responsibility for an analytic and focused three-way consultation and examination	✓	✓						
5	commitment to focused and analytic assessments of common and complex clinical problems in paediatrics	✓	✓		✓			STTA	
6	effective skills in making a safe decision about the most likely diagnosis in paediatrics	✓	✓					STTA	
7	leadership skills in the management of common and complex conditions in general paediatrics and paediatric sub-specialties seeking additional advice and opinion as appropriate (as outlined in the Framework of Competences for Level 3 in General Paediatrics and the Paediatric sub-specialties)	✓	✓		✓			STTA	
8	effective skills in ensuring the management of behavioural, emotional and psychosocial aspects of illness in children and families	✓						STTA	
9	expertise in a range of practical procedures in paediatrics specific to general and sub-specialist training	✓		✓					
10	effective skills in written communications for a range of audiences, for children and their families, colleagues and other organisations	✓	✓						
11	effective collaboration with other specialists in using and interpreting complex investigations undertaken in children	✓							
12	responsibility for safe prescribing in paediatrics in common and complex situations and for the supervision of others	✓						STTA	
13	effective skills in advising other agencies in safeguarding cases	✓	✓		✓			STTA	



Standards	By the end of Level 3 training, trainees will demonstrate:	E-PAED MSF							Comment
		MinicEx	SAIL	DOPS	Portfolio	Others to be developed (STTA)	Paed CCF		
<b>Maintaining good medical practice</b>		<b>Knowledge, Skills and Performance</b>							
14	detailed, up-to-date knowledge of the science-base for general paediatrics or a paediatric sub-specialty (as outlined in the Framework of Competences for Level 3 in General Paediatrics and the Paediatric sub-specialties)	✓						STTA	
15	detailed knowledge of common and serious paediatric conditions and their management in General Paediatrics or in a Paediatric sub-specialty	✓						STTA	
16	effective skills in recognising and responding effectively to disordered growth and development of any kind in paediatrics	✓						STTA	
<b>Teaching and training, appraising and assessing</b>		<b>Knowledge, Skills and Performance, Safety and Quality</b>							
17	involvement in health promotion activities specific to general paediatrics or a paediatric sub-specialty				✓				
18	independent thinking to enable them to challenge guidelines and procedures in paediatrics where appropriate	✓							
19	an application of risk assessment strategies through active involvement in the development, evaluation and implementation of policy and clinical governance activities in paediatric practice	✓						STTA	
20	effective skills to maintain and develop knowledge and clinical skills required of a specialist in paediatrics	✓							
21	responsibility for ensuring an open-minded approach to equality and diversity in the paediatric team				✓			STTA	
22	detailed knowledge of the law regarding death, data protection, confidentiality and consent in paediatrics	✓						STTA	
<b>Teaching and training, appraising and assessing</b>		<b>Knowledge, Skills and Performance, Partnership and Teamwork</b>							
23	a commitment to effective teaching and training of colleagues working in different contexts in the care of children and young people	✓						STTA	
24	effective skills in the training, supervision and assessment of a wide range of colleagues working in the care of children and young people	✓						STTA	
25	understanding and application of complex methodological approaches in research in paediatrics				✓			STTA	



Standards	By the end of Level 3 training, trainees will demonstrate:	E-PAED MSF							Comment	
		CBD	MiniCaX	SAIL	DOPS	Portfolio	Others to be developed (STTA)	Paed CCF		
<b>Relationships with patients</b>										
26	effective strategies to engage children and in the management of their care	✓	✓						✓	
27	effective skills in conveying and discussing difficult information, including death and bereavement, with young people and their families	✓	✓						✓	
28	effective skills in giving information and advice to young people and their families in common and complex cases	✓	✓						✓	
<b>Working with colleagues</b>										
<b>Communication, Partnership and Teamwork</b>										
29	positive and constructive relationships within teams of colleagues from a wide range of professional contexts	✓	✓						STTA	
30	a commitment to effective multi-agency and multi-disciplinary team-working for the care of children	✓	✓						STTA	
31	effective managerial skills in taking on a positive managerial role to support effective service provision	✓	✓				✓		STTA	
<b>Communication, Partnership and Teamwork, Safety and Quality, Knowledge Skills and Performance</b>										
32	effective leadership skills in the organisation of paediatric team-working and effective handover	✓	✓					✓	STTA	
33	effective skills in promoting clinical practice through engagement with local, national and international organisations involved in the care of children	✓	✓					✓	STTA	
<b>Probity</b>										
<b>Maintaining Trust, Safety and Quality</b>										
34	exemplary professional and personal conduct so as to act as a role model to others	✓	✓					✓		
35	responsibility for ensuring their own reliability and accessibility and that of others in the team	✓	✓					✓		
<b>Health</b>										
36	effective skills in ensuring their own responsible approach to personal health, stress and well-being and that of others	✓	✓					✓		

**Appendix 1 Data Protection**

All information that we hold concerning you as an individual will be held and processed in accordance with the provisions of the Data Protection Act 1998. Such data will be used to administer our relationship with you for the purposes of your training and assessment and membership of the College. It will help us to provide you with the services necessary for you to demonstrate that you are following a recognised programme of training, have acquired the necessary competences outlined in the curriculum and have undertaken all the required assessments appropriate to your route of training.

The information held may be transferred to RCPCH suppliers, Deeneries and others for the purposes of assessment, ePortfolio, and research, solely for training or other College membership services. It will also be used to provide you with information on all our activities.

We will not, without your consent, supply your name and addresses to any third party except where (a) such transfer is a necessary part of the activities that we undertake for training and assessment, noted above or (b) we are required to do so by operation of law.

Appropriate technical and other security measures have been taken to safeguard your personal information. Action will be taken against unauthorised or unlawful processing of personal data and against accidental loss or destruction of, or damage to, personal data.

Personal information will not be transferred to a country or territory outside the European Economic Area without your prior permission. We will take all reasonable measures to ensure that personal information is not transferred abroad without suitable safeguards and in so doing complies fully with the specific terms of the DPA relating to this.

As an individual, you have a right under the Data Protection Act 1998 to obtain information from us, including a description of the data we hold on you. Should you have any queries concerning this right please contact our Compliance Officer on [dataprotection@rcpch.ac.uk](mailto:dataprotection@rcpch.ac.uk).

If you notice that any details we hold on you are inaccurate, please contact [enquiries@rcpch.ac.uk](mailto:enquiries@rcpch.ac.uk) or [training.enquiries@rcpch.ac.uk](mailto:training.enquiries@rcpch.ac.uk) so that your details can be updated.



### Appendix 2 Equal Opportunities

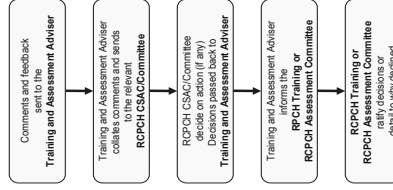
A new Equal Opportunities Statement will be uploaded once the new Equality Act has been implemented.

### Appendix 3 Curriculum Monitoring, Review and Evaluation

Curriculum and assessment development is a dynamic and changing process. It is by continuous and cyclical review that the curriculum and assessment strategy can continue to be fit for purpose with ongoing national, institutional, service need or learning environment changes. Themes for monitoring, review and evaluation will be:

- i. the relevance of learning outcomes to clinical practice
- ii. the quality of training in individual units
- iii. the quality of formal training opportunities
- iv. the balance of learning experiences across clinical and non-clinical contexts
- v. the validity and feasibility of assessments within the training programmes.

There will be continuous feedback from individuals through CSACS, College Tutors, Regional Advisors, Programme Directors, Trainees Committee, lay representatives and external stakeholders. Contributions to the curriculum monitoring and review process can be put forward by contacting the Training and Assessment Advisor.



Curriculum Evaluation will be carried out every five years and will be based on data from a range of sources and include both qualitative and quantitative information. This process will be led by the RCPCH Training and Assessment Committees.



## Annexe 6 Formation approfondie en néphrologie pédiatrique

### 1. Généralités

#### 1.1 Description de la discipline

La néphrologie pédiatrique est la discipline médicale qui traite des causes et des séquelles des affections rénales et des voies urinaires chez l'enfant. Elle a pour tâche la prise en charge des enfants souffrant d'affections rénales, de la naissance à la fin de la puberté, voire jusque dans l'adolescence. Les spécialistes en néphrologie pédiatrique doivent considérer la santé et la maladie de leurs patients d'un point de vue global.

#### 1.2 Objectifs de la formation postgraduée

La formation approfondie en néphrologie pédiatrique doit donner au candidat la possibilité d'acquérir les connaissances théoriques et pratiques lui permettant de pratiquer, sous sa propre responsabilité, dans l'ensemble de la néphrologie pédiatrique, aussi bien dans le secteur ambulatoire que dans le domaine hospitalier. La formation s'acquiert généralement dans le département de néphrologie d'une clinique universitaire, ce qui permet une collaboration tant avec les autres spécialités de la pédiatrie qu'avec d'autres cliniques pédiatriques universitaires, et surtout avec les néphrologues pour adultes et les équipes de transplantation. Au terme de sa formation, le candidat doit être capable:

- de prendre en charge les patients néphropathiques et leurs familles, sous sa propre responsabilité;
- de conduire des consiliums néphrologiques et de pratiquer des examens spéciaux en secteur hospitalier ou ambulatoire;
- d'appliquer les divers procédés de substitution de la fonction rénale selon des principes éthiques;
- d'évaluer correctement le rapport coût/utilité des mesures préventives, diagnostiques et thérapeutiques en néphrologie pédiatrique;
- d'analyser et d'interpréter personnellement les travaux scientifiques.

### 2. Durée et structure de la formation postgraduée

#### 2.1 Durée et structure de la formation postgraduée

2.1.1 La formation postgraduée en néphrologie pédiatrique dure 3 ans, dont 1 année peut être accomplie dans le cadre de la formation postgraduée pour l'obtention du titre de spécialiste en pédiatrie.

2.1.2 La formation postgraduée en néphrologie pédiatrique ne peut être commencée qu'après au moins 2 ans de formation postgraduée de base.

2.1.3 Une période de formation postgraduée de 6 mois peut être accomplie en néphrologie d'adultes ou en néphrologie expérimentale dans des établissements de formation postgraduée reconnus par la FMH.

#### 2.2 Dispositions complémentaires

2.2.1 Pour obtenir la formation approfondie, le candidat doit être détenteur du titre de spécialiste en pédiatrie et être membre de la FMH.



2.2.2 Collaboration à un projet scientifique.

2.2.3 Trois publications (en pédiatrie ou en néphrologie) dans une revue scientifique soumise à une révision par des pairs («peer review»).

### 3. Contenu de la formation postgraduée

#### 3.1 Connaissances à acquérir dans les domaines théorique et scientifique

##### 3.1.1 Connaissance

- de l'embryologie, de l'anatomie et de la physiologie des reins et des voies urinaires efférentes;
- de l'embryologie et de l'anatomie pathologiques ainsi que de la physiopathologie des reins et des voies urinaires efférentes;
- de la physiologie et de la physiopathologie de la fonction rénale durant la période pré et néonatale;
- de la génétique;
- des bases scientifiques de tous les procédés de substitution de la fonction rénale;
- des principes de la pharmacothérapie néphrologique.

##### 3.1.2 Aptitude

- à rédiger de façon autonome des travaux scientifiques et à analyser et à interpréter de manière critique des travaux scientifiques.

#### 3.2 Connaissances à acquérir dans le domaine clinique

##### 3.2.1 Connaissance

- des maladies organiques et fonctionnelles, congénitales ou acquises, des reins et des voies urinaires efférentes, de leur origine, du diagnostic différentiel, du traitement et du pronostic;
- du tableau clinique des affections néphrologiques propres à la période néonatale et de leur traitement;
- des affections systémiques, des tumeurs et des maladies du métabolisme impliquant les fonctions rénales ou des complications consécutives à des thérapies rénales;
- de l'épidémiologie des affections rénales en Suisse et dans le monde;
- de la génétique des affections rénales et aptitude à procéder à des investigations et des consultations familiales en collaboration avec les généticiens;
- du diagnostic rénal prénatal et aptitude à en interpréter le résultat en collaboration avec les obstétriciens;
- des principes éthiques, notamment en ce qui concerne les procédés de substitution de la fonction rénale, du diagnostic prénatal et de la prise en charge physique et psychique de l'enfant souffrant d'une affection rénale;
- des causes et du traitement spécifique des troubles de la croissance et de l'alimentation de l'enfant souffrant d'une affection rénale;
- des mesures diététiques à prendre en cas d'affection rénale, y compris le régime à suivre;
- du développement cognitif, psychomoteur et psychosocial de l'enfant souffrant d'affection rénale;
- des troubles de l'équilibre électrolytique et acido-basique;
- des causes, des méthodes diagnostiques et du traitement de l'hypertension;
- de la prophylaxie des affections rénales, notamment des infections des voies urinaires, de la lithiase urinaire ainsi que de l'hypertension et de ses séquelles;



- de la dialyse péritonéale (DPAC, dialyse automatique), de l'hémodialyse (fistule artérioveineuse, cathéter central) et de l'hémo(dia)filtration artérioveineuse / veineuse permanente, y compris du contrôle de qualité du procédé de dialyse;
- des indications de la plasmaphérèse;
- de la transplantation rénale (organes de donneurs décédés et vivants), y compris les mesures préparatoires ainsi que la prise en charge postopératoire et à long terme;
- de la pharmacothérapie générale des affections et dysfonctions rénales;
- de l'histopathologie des affections rénales;
- des opérations concernant les malformations des reins et des voies urinaires;
- des opérations concernant les procédés de substitution des fonctions rénales et de leur traitement postopératoire;
- de la physiologie et de la physiopathologie de la miction en relation notamment avec les malformations;
- des examens urodynamiques et de leur interprétation;
- des examens glomérulaires et tubulaires de la fonction rénale;
- des examens des reins par imagerie (ultrasons, radiographie, tomographie [CT, IRM] et scintigraphie) et de l'interprétation des documents originaux;
- des ordonnances et dispositions de l'assurance-maladie sociale;
- du rapport coût/utilité des mesures diagnostiques et thérapeutiques;
- des bases de la néphrologie d'adultes;
- des bases du diagnostic et du traitement des affections rénales dans des conditions difficiles (catastrophe, pays en développement).

### 3.2.2 Aptitude

- à prendre en charge la famille du patient (parents, frères et sœurs);
- à introduire et coordonner les mesures de réadaptation et d'intégration comprenant notamment l'encouragement à la scolarisation, à la physiothérapie et à l'ergothérapie;
- à coordonner les traitements interdisciplinaires d'un patient et à diriger l'équipe interdisciplinaire comprenant des néphrologues, des psychiatres et des psychologues, des infirmières (dialyse), des travailleurs sociaux, des enseignants, des physio et des ergothérapeutes, ainsi que des diététiciens;
- à établir un plan de traitement des insuffisances rénales aiguës et chroniques se référant aux dernières découvertes en la matière, avec ou sans procédé de substitution de la fonction rénale;
- à former les parents (et les patients) à la dialyse péritonéale en collaboration avec les infirmières.

### 3.3 Activités à attester

- diagnostic et établissement d'un plan thérapeutique pour les patients souffrant d'affections rénales dont l'état ne nécessite pas (en core) l'application de procédés de substitution de la fonction rénale (au moins 40);
- diagnostic et traitement de patients souffrant d'insuffisance rénale aiguë nécessitant une dialyse (au moins 20);
- prise en charge postopératoire de patients transplantés (au moins 10)
- diagnostic et traitement de patients transplantés présentant des dysfonctionnements rénaux (au moins 10);
- prise en charge de patients commençant une dialyse péritonéale ou une hémodialyse de longue durée (au moins 10 de chaque);
- prise en charge de patients de longue durée sous dialyse péritonéale (au moins 100 par mois);
- prise en charge de patients de longue durée sous hémodialyse (au moins 150 par mois)
- consiliums néphrologiques (au moins 25);
- biopsies rénales (au moins 10);



- examens de la fonction glomérulaire (au moins 10);
- échographies des reins et de la vessie sous supervision (facultatif);
- analyses d'urine (au moins 100);
- analyse autonome de la littérature la plus récente au sujet d'un problème diagnostico-thérapeutique concret (au moins 3 cas);
- collaboration régulière avec des néphrologues d'adultes.

## 4. Règlement d'examen

### 4.1 But de l'examen

La réussite de l'examen de spécialiste constitue la preuve que le candidat a acquis les connaissances pratiques et théoriques nécessaires pour soigner les patients de manière autonome et compétente dans le domaine de la néphrologie pédiatrique.

### 4.2 Matière d'examen

La matière d'examen correspond au point 3 du programme de formation postgraduée.

### 4.3 Commission d'examen

La commission d'examen se compose de quatre membres: 2 spécialistes en pédiatrie avec formation approfondie en néphrologie pédiatrique, chacun représentant un établissement de formation postgraduée, 1 pédiatre indépendant et 1 spécialiste en néphrologie. Les membres de la commission d'examen sont élus lors de l'assemblée annuelle de la Société suisse de néphrologie pour une durée de 4 ans. Une réélection est possible. Il incombe à la commission d'examen d'organiser et d'exécuter les examens ainsi que d'en fixer les émoluments. Pour chaque examen, la commission d'examen désigne 3 examinateurs parmi ses membres. Elle veillera cependant à ce que le dernier formateur du candidat ne figure pas parmi ceux-ci.

### 4.4 Type d'examen

Première partie (examen écrit)

Les facultés cognitives sont testées au moyen d'un questionnaire comportant 20 questions. Durée 2 à 3 heures.

Deuxième partie (examen oral)

- Interprétation de la littérature scientifique clinique: analyse de 3 publications scientifiques, en anglais, en français ou en allemand (remise de la littérature: 3 mois avant l'examen).
- Prise de décisions cliniques: analyse de 3 situations cliniques. Durée totale de l'examen: 60 à 90 minutes.

### 4.5 Modalités de l'examen

#### 4.5.1 Moment de l'examen

Il est recommandé de passer l'examen de spécialiste au plus tôt durant la dernière année de formation postgraduée réglementaire.

#### 4.5.2 Lieu et date de l'examen

L'examen a lieu une fois par année. En règle générale, il se déroule dans l'un des établissements de formation. Il est annoncé 6 mois à l'avance dans le Bulletin des médecins suisses.

Seuls sont admis à la deuxième partie de l'examen, les candidats ayant réussi la première partie.



#### 4.5.3 Procès-verbal

Un procès-verbal est établi pour l'examen oral. Une copie est adressée au candidat.

#### 4.5.4 Taxe d'examen

La taxe d'examen est fixée par la commission d'examen et publiée, avec l'annonce de l'examen, dans le Bulletin des médecins suisses.

#### 4.6 Critères d'évaluation

L'examen est réussi lorsque la majorité des membres de la commission d'examen juge que les résultats obtenus par le candidat sont suffisants.

#### 4.7 Répétition de l'examen et recours

Le résultat de l'examen doit être communiqué au candidat par écrit (partie 1) ou oralement (partie 2).

Les deux parties de l'examen peuvent être repassées séparément et autant de fois que nécessaire.

En cas d'échec, le candidat peut contester la décision négative dans un délai de 30 jours auprès de la Commission d'opposition pour les titres de formation postgraduée (CO TFP).

## 5. Critères de classification des établissements de formation postgraduée

### 5.1 Etablissements de formation postgraduée reconnus (catégorie A, 3 ans)

Sont considérés comme établissements de formation postgraduée les cliniques pédiatriques universitaires et autres centres comparables remplissant les conditions suivantes:

<b>Fonction</b>	
Centre de soins:	
Pratique de:	
- dialyses péritonéales pour affections aiguës et chroniques	+
- hémodialyses pour affections aiguës et chroniques	+
- hémofiltrations	+
Prise en charge des patients avant et après transplantation	+
<b>Equipe médicale</b>	
Médecin responsable à plein temps, spécialiste en pédiatrie avec formation approfondie en néphrologie pédiatrique	+
Postes d'assistants pour la formation en néphrologie, au moins	1
<b>Possibilités de formation postgraduée</b>	
En clinique: présentation de cas	3 h/semaine
Sessions de formation postgraduée interdisciplinaires avec la participation de néphrologues	3 h/semaine
Sessions de formation postgraduée en collaboration avec des néphrologues d'adultes	1 à 2 par mois
Journal-Club	+
Accès à des banques de données	+
Possibilité d'avoir une activité scientifique	+



## 6. Dispositions transitoires

Le présent programme de formation postgraduée remplace celui du 1<sup>er</sup> juillet 2001.

Les candidat remplissant les exigences du programme de formation postgraduée du 1er janvier 1998 pour l'ancienne sous-spécialité en néphrologie pédiatrique jusqu'à u 30 juin 2003 peuvent demander la formation approfondie dans ce domaine.

Date de mise en vigueur: 1<sup>er</sup> juillet 2004



**ANEXO E12-1**





## Paediatric HERMES: a European Syllabus in Paediatric Respiratory Medicine

Respiratory diseases remain among the leading causes of morbidity and mortality in children. Yet paediatric respiratory medicine (PRM) is a young subspecialty which only started to develop in the 1940s. Many of the early leaders were physiologists and clinicians with a special interest in the breathing of children, who applied physiological techniques to study lung function in children [1].

With scientific advances, and thus the increasing difficulties of mastering the whole discipline of children's medicine, the need for subspecialisation has become imperative. The subspecialty of PRM has come a long way and in Europe, PRM continues to evolve towards a consolidated and recognised tertiary care subspecialty. Structured programmes for education and training in PRM are now central to the development of the subspecialty and to a long-term goal of ensuring the best quality of care for all children with respiratory problems. Harmonising education and training at the European level will have a major role in achieving this goal and is thus a priority for all involved in clinical care of children with respiratory diseases.

Working towards this more than 10 years ago, the Long Range Planning Committee of the Paediatric Assembly of the European Respiratory Society (ERS), led by Max Zach, developed the first Training Syllabus for Paediatric Respiratory Medicine as a tertiary care subspecialty. This pioneering syllabus specified both the content of training and curriculum components and has since served as a model for other specialties. However, this first syllabus was developed by a few distinguished European specialists in PRM, and at that stage, there were only limited opportunities for wider consultation. Following the example of the ERS adult HERMES (Harmonised Education in

Respiratory Medicine for European Specialists) Task Force, the Paediatric Assembly voted for an update of the existing syllabus. An application for a Task Force to tackle this task was thus put forward through the ERS School and approved by the ERS Executive Committee.

The paediatric HERMES initiative was therefore launched to develop updated European standards for training in the PRM subspecialty. Aligned with the ERS's mission, and driven by the impetus of the successful adult HERMES, the paediatric HERMES Task Force set to work. The initiative was strongly supported by the ERS School and the Tertiary Care Group of the Paediatric Section of the Union Européenne des Médecins Spécialistes (UEMS) as well as the Forum of European Respiratory Societies (FERS). This project, which will last an estimated 5 years, aims to develop a range of consensus documents and activities for the education and training of paediatric respiratory medicine specialists, including (figure 1):

- 1) a European syllabus;
- 2) a European curriculum;
- 3) a European examination in PRM; and
- 4) development of training networks and training centre accreditation.

This paper describes the completion of phase I of the project and presents the first of these documents, a new and updated European syllabus. It defines the knowledge and skills that a PRM trainee needs to acquire before appointment as a specialist in PRM.

### Historical perspective

Between 1996 and 1998, the first syllabus harmonised training programmes in PRM between different European countries, and

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#### Provenance

*ERS Task Force report*

#### Competing interests

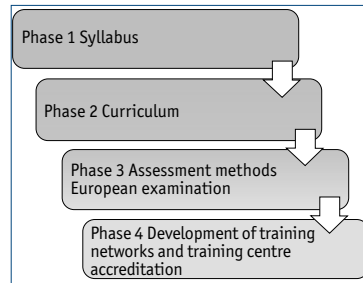
*None declared.*

*Main image ©Lung Health Image  
Library/Damien Schumann*



## HERMES

**Figure 1**  
Paediatric HERMES project phases.



established clear standards of knowledge and skills required to practice PRM on a tertiary care level [2]. In cooperation with the UEMS, this syllabus became a model for other tertiary care subspecialties and it aimed to be compatible with existing national programmes. The syllabus was structured as obligatory and desirable modules. In addition to the syllabus, a list of training centres was produced, which had been approved by national paediatric societies [3].

In 2006, 242 of the >750 members of the ERS Paediatric Assembly at that time responded to an online survey which aimed to determine whether the 2002 syllabus needed to be updated [4]. Although a great majority of respondents stated that this syllabus was known and useful, 89% supported the need for updating. Many suggestions were received regarding the syllabus as a whole and its specific modules.

## Methodology

After approval of the paediatric HERMES Task Force by the ERS, it was decided to use a formal consensus process, a modified Delphi process, similar to the methodology developed within the adult HERMES project [5]. The project and all its processes were coordinated at the ERS headquarters and funded by the ERS School. The aim of the present publication is to describe the process of developing the updated syllabus and to publish its content.

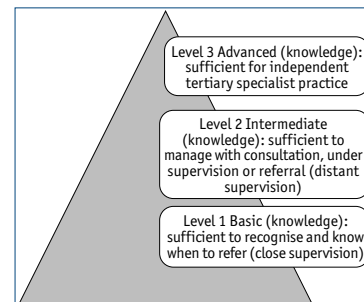
The Delphi technique is an interactive process designed to lead to a consensus between a panel of pre-selected experts [6–9]. The paediatric HERMES Task Force consisted of 15 experts representing different European regions as well as the Long Range Planning Committee, the Paediatric Assembly and the ERS School. In parallel, European experts from 13 countries were identified as national respondents. Through FERS, national societies nominated and approved their respective national respondents. Thus, 20

European countries were represented in the cohort of experts, which included both the Task Force members and the national respondents. Members of the Paediatric Assembly also participated in the Delphi rounds and 29 trainees in tertiary care centres were identified and contributed to the process.

Through telephone conferences and electronic dialogue in February 2008, the Task Force compared the 2002 PRM syllabus with the 2006 syllabus of the adult HERMES. Some important principles were agreed at the beginning. It was decided to keep the modular format with mandatory and optional modules. The Task Force also agreed unanimously that formal training in PRM requires at least a 3-year training in general paediatrics and should be followed by at least 3 years' training in PRM. Although different definitions may be used, for the purpose of this Task Force it was decided to designate the syllabus as where the content of training is described ("what") while the curriculum to be developed in a second step is understood to describe how the content should be taught ("how").

The issue of levels of competence to be achieved was discussed and it was decided to align with the adult syllabus by adopting levels of competence for each individual module. It was emphasised that the overlying concept is that the target users of the syllabus are tertiary care specialists and trainees in PRM. The following levels of competence were identified: level 1 describes competence which calls for close supervision, level 2 underlies distant supervision and level 3 competence is the level of a tertiary specialist who practices independently. With regard to purely knowledge-based items it was decided that level 1 refers to basic knowledge, level 2 to intermediate and level 3 to in-depth knowledge of the respective item (figure 2).

Guided by the results of the 2006 online



**Figure 2**  
Definitions of levels of competence.



survey of the Paediatric Assembly, the Task Force decided on the modules to be updated and each was allocated to small working groups. In March 2007 in Nice, the Task Force collated the output from these working groups and finalised the first draft syllabus to be submitted for comments through the first Delphi round. This first round aimed to obtain broad feedback from the experts within the Task Force, the national respondents and the Paediatric Assembly. A vote on the proposed list of syllabus items and open comments were requested. The online survey was constructed such that respondents could agree or disagree with each proposed item and for each module being mandatory or optional. Open comments could be added and additional items could be proposed at the end of each module. All responses and comments were considered in depth during the next meeting in July 2008 in Berlin and following this, a second draft syllabus was produced.

An updated version of this draft syllabus was thus put online for comments in July 2008. The second Delphi round was constructed differently and respondents were asked to perform the following tasks: for each new module, to state their agreement or disagreement to it being a mandatory or an optional module; and to state, for each module item included in the syllabus, which level of competence trainees should have acquired by the time they qualify as tertiary care specialists in PRM.

At a plenary session in October 2008, the Task Force members and national respondents discussed those items and issues that remained controversial. Debates and discussions led to clarification and fine-tuning of items. In the light of these discussions and the results of the second survey, the attendees completed a final survey (third Delphi round). The Task Force finally met in November 2008 in Geneva to finalise this document on the basis of the data collected (figure 3).

## Results

At its first meeting, the Task Force drafted a syllabus that contained 19 modules with 130 syllabus items. This was used in the first Delphi round. The response rates of different respondent categories during the Delphi process can be seen in figure 4. Following the first Delphi round, 44 out of 265 items were marked as controversial nonconsensual items, with an agreement of <80%. This constituted 16.6% of the total proposed items. Individual syllabus items generated



387 comments from all respondent groups, of which 45% came from experts, 48% from the Paediatric Assembly and 7% from trainees. This feedback provided a basis for the revision and the second draft.

The second draft included five new modules, resulting in 21 mandatory modules and three optional modules with 162 syllabus items. This round also attracted extensive reactions. However, this round was more controversial, with agreement rates ranging from 35.5% to 74.8%, and no topic reached the 80% agreement rate accepted as consensus in the first Delphi round. There were five items with equal or almost equal (with one respondent difference) distribution of opinions between two levels of knowledge. For 28 out of the 162 syllabus items (17.3%) Task

**Figure 3**  
Paediatric HERMES Task Force processes.

Category participation rates	
<b>Delphi Round 1</b>	
Task Force members	92%
National respondents	82%
Trainees	21%
Paediatric Assembly	14%
<b>Delphi Round 2</b>	
Task Force members	86%
National respondents	64%
Trainees	16%
Paediatric Assembly	16%
<b>Delphi Round 3</b>	
Task Force members	79%
National respondents	67%

**Figure 4**  
Delphi round participation rates per respondent category. Detailed results of each Delphi round are available on the HERMES website at [hermes.ersnet.org/](http://hermes.ersnet.org/)



Force members expressed a different opinion from Assembly respondents. The results from the second Delphi round were clarified and discussed in the plenary session, followed by a third and final Delphi round among those present at this meeting. The Task Force finally met in Geneva to discuss the remaining controversial items and proceeded to finalise the updated European Paediatric Respiratory Medicine Syllabus (Appendix 1).

## Discussion

When the work of this Task Force began, it had the unique advantage that the update could be based both on an existing working European training syllabus in PRM and the example of the adult HERMES, which used a formal process to increase the acceptability of the final output. The Task Force was well aware that the 2002 syllabus with its list of European training centres has been invaluable for the continuous development of PRM as a recognised subspecialty with the overall aim to improve patient care all over Europe.

However, there are some important aspects and problems that were only partially addressed by this first initiative. Within Europe, countries are in different stages of the development of medical training and some countries do not formally recognise PRM as a subspecialty. This heterogeneity will pose a challenge. Acceptability of the syllabus will differ from country to country. The Task Force has tried to find a balance between making the syllabus both realistic and aspirational. The availability and size of training centres, technologies and other resources will vary from country to country (figure 5). At the same time, the ultimate vision remains that the training as defined by the Task Force will deliver well-trained specialists who will be in a strong position to secure the best care of children with respiratory illnesses.

The Task Force is also conscious of the basic European Union principle of subsidiarity, which means there is no legal standing to the initiative. All that this process produces are recommendations. The Task Force is equally aware of the existence of local or national resistance to the official recognition of PRM. Another important consideration throughout the process is the existence of paediatricians with special interest in PRM at a level below tertiary specialists. It is expected that the syllabus with its modular structure will eventually be adapted to cover the respective needs and interests of secondary and primary care paediatricians with a special interest in respiratory medicine. This has already happened based on the first syllabus in some countries, for example the UK.

## Conclusion

The development and publication of the updated European Paediatric Respiratory Medicine Syllabus is an important milestone in the paediatric HERMES project. Future tasks of the project will include development of the curriculum, introduction of the European examination and development of training networks and accreditation of training centres. Up to now, Board examinations and accreditations have been organised on a national level only. As PRM is a tertiary-level paediatric subspecialty, numbers of trainees in any one country are relatively small and most will agree that it is desirable to organise training on a pan-European level. Conversely, the paediatric respiratory community is growing, as evidenced by the growing number of members of the Paediatric Assembly. In contrast to the well-established specialty of adult respiratory medicine in Europe, PRM is still evolving. Existing national training concepts are heterogeneous and pose both a challenge and an opportunity. Provoking change in a developing and evolving system is easier than aiming to influence an established one.

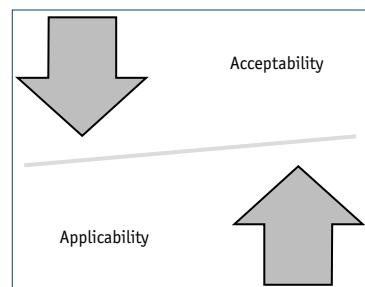
The curriculum phase, which seeks to operationalise the syllabus, is already far advanced. The curriculum will describe the methods and procedures of training as well as proposing validated assessment tools. In other words, the curriculum will describe how competences in the syllabus should be taught, learned and assessed. It remains to be negotiated how these assessments can be implemented on the European level.

Alongside all these, groundwork for the voluntary European examination in PRM has begun



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**Figure 5**  
Acceptability versus applicability.



with the syllabus as its blueprint. The inaugural examination is expected to take place in 2010 at the ERS Annual Congress in Barcelona. For the future, the Task Force looks ahead to developing training networks throughout Europe as well as comprehensive educational materials such as e-learning resources, postgraduate courses and seminars.

This global project aspires to facilitate the mutual unrestricted acceptance and ratification of individual qualifications and to enable free movement of trainees and thus, serve to reach the goal of a harmonised European subspecialty of PRM. The main aim, however, is of course to deliver the best possible training to the next generation, in order that they can outdo their mentors and deliver the very best care to children with respiratory disease.



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## HERMES

<b>Appendix 1. The European Paediatric Respiratory Medicine Syllabus</b>			
	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
<b>Evaluation of respiratory symptoms and signs MANDATORY</b>			
1	Physiology of cough, shortness of breath, noisy breathing including wheeze, snoring, stridor		●
2	Evaluation and management of isolated cough		●
3	Evaluation and management of dyspnoea		●
4	Evaluation and management of noisy breathing		●
5	Understanding of validity of symptoms and signs		●
6	Clinical use of questionnaires		●
<b>Related modules</b>			
All			
<b>Pulmonary function testing MANDATORY</b>			
1	Anatomical and developmental respiratory physiology in health and disease including ventilation-perfusion and gas exchange		●
2	Measurement and interpretation of flow-volume curves		●
3	Measurement and interpretation of lung volumes		●
4	Equipment maintenance, hygiene and infection control during test procedures		●
5	Definitions of measured indices		●
6	Appropriate use of reference values		●
7	Test variability and reproducibility		●
8	Performance and interpretation of reversibility testing		●
9	Performance and interpretation of bronchial provocation testing		●
10	Performance and interpretation of exercise testing for the diagnosis of exercise-induced bronchoconstriction		●
11	Blood gas assessment and oximetry interpretation		●
12	Performance and indication for 6-minute walking test		●
13	Quality control in paediatric lung function laboratories		●
<b>Related modules</b>			
All			
<b>Airway endoscopy MANDATORY</b>			
1	Anatomy, physiology and pathology of the respiratory tract of paediatric patients		●
2	Performance of flexible endoscopy of the airway in paediatric patients of all ages		●
3	Conscious sedation and local anaesthesia for paediatric patients		●
4	Indications, procedure, and interpretation of bronchoalveolar lavage		●
5	Indications, procedure, and interpretation of bronchial brushings and biopsies		●
6	Indications and contraindications of rigid bronchoscopy including foreign body removal		●
7	Indications, procedure and interpretation for performing transbronchial biopsies	●	
8	Evaluation and management of risks and complications		●
9	Organisation of an endoscopic suite including equipment maintenance and hygiene		●
10	General anaesthesia for paediatric flexible bronchoscopy	●	
<b>Related modules</b>			
All			
<b>Imaging MANDATORY</b>			
1	Anatomy of the respiratory tract including the extrathoracic airways as visualised using imaging techniques		●
2	Indication, interpretation and basic principles of conventional radiography, computed tomography, magnetic resonance imaging, ultrasonography and isotope imaging methods		●
3	Comparative radiation burden of the different procedures	●	
4	Indications for interventional radiology (biopsy, drainages)		●
<b>Related modules</b>			
All			
<b>Acute and chronic lung infection MANDATORY</b>			
1	Epidemiology, microbiology, infectivity and pharmacology of antimicrobial and antiviral drugs		●
2	Diagnosis and management of common respiratory tract infections and their complications		●
3	Diagnosis and management of respiratory infections in high-risk situations		●



	Level 1	Level 2	Level 3
4 Diagnosis and management of bronchiectasis			●
5 Immunisations for respiratory pathogens			●
6 Accuracy and interpretation of microbiological tests			●
7 Lung involvement in immunodeficiency disorders			●
<b>Related modules</b>			
Airway endoscopy			
Imaging			
Bronchial asthma and other wheezing disorders			
Cystic fibrosis			
Rare diseases			
<b>Tuberculosis (TB) MANDATORY</b>			
1 Epidemiology, microbiology, infectivity and pharmacology			●
2 <i>In vivo</i> and <i>in vitro</i> diagnostic tests including their accuracy and interpretation			●
3 Diagnosis and management of primary and post-primary pulmonary TB			●
4 Diagnosis and management of extrapulmonary TB		●	
5 Diagnosis and management of multidrug-resistant tuberculosis (MDR-TB)		●	
<b>Related modules</b>			
Acute and chronic lung infections			
<b>Bronchial asthma and other wheezing disorders MANDATORY</b>			
1 Different phenotypes and their different pathologies and long-term outcomes (including underlying pathophysiology and basic epidemiology)			●
2 Environmental factors relevant to asthma and other wheezing disorders			●
3 Diagnosis and management of bronchiolitis and its complications and long-term sequelae			●
4 Relevant abnormalities in lung function including airway responsiveness			●
5 Understanding difficulties in diagnosis and differential diagnosis			●
6 Evidence-based management of asthma at different ages including age-related pharmacology			●
7 Emerging therapeutic strategies		●	
<b>Related modules</b>			
Pulmonary function testing			
Airway endoscopy			
Allergic disorders			
Rehabilitation in chronic respiratory disorders			
Inhalation therapy			
Epidemiology and environmental health			
<b>Allergic disorders MANDATORY</b>			
1 Understanding pathophysiology: immune response, control of IgE regulation and the mechanisms of allergic inflammation; basic genetics; basic epidemiology			●
2 <i>In vivo</i> testing for IgE-mediated sensitivity (procedure and interpretation of skin prick testing, challenge testing; meaning and validity of test results)			●
3 <i>In vitro</i> methods for determination of specific IgE, inflammation markers (principle and interpretation; meaning and validity of test results)			●
4 Additional tests in allergology (patch tests, allergen bronchial provocation tests)		●	
5 Diagnosis and management of anaphylaxis			●
6 Diagnosis and management of allergic rhinitis			●
7 Diagnosis and management of mild-to-moderate atopic dermatitis			●
8 Diagnosis and management of food allergy		●	
9 Diagnosis and management of bronchopulmonary aspergillosis			●
10 Specific immunotherapy			●
11 Prevention measures			●
12 Alternative treatment		●	
<b>Related modules</b>			
Bronchial asthma and other wheezing disorders			
Inhalation therapy			
Epidemiology and environmental health			



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	Level 1	Level 2	Level 3
<b>Cystic fibrosis (CF) MANDATORY</b>			
1 Genetics, pathophysiology and epidemiology			●
2 Screening and diagnosis			●
3 Prognosis			●
4 Diagnosis and management of CF lung disease			●
5 Diagnosis and management of extrapulmonary manifestations of CF			●
6 Evidence-based management			●
7 Cross-infection and hygiene			●
8 Understanding of microbiology relevant to CF			●
9 Knowledge of emerging treatment strategies		●	
10 Management of end-stage lung disease and indications for lung transplantation			●
<b>Related modules</b>			
Pulmonary function testing			
Airway endoscopy			
Imaging			
Acute and chronic lung infection			
Rehabilitation in chronic respiratory disorders			
Epidemiology and environmental health			
<b>Congenital malformations MANDATORY</b>			
1 Developmental anatomy relevant to the respiratory system			●
2 Diagnosis and management of congenital malformations affecting the respiratory system			●
3 Knowledge of surgical options for treating congenital malformations			●
4 Follow-up and outcomes of congenital malformations			●
<b>Related modules</b>			
Pulmonary function testing			
Airway endoscopy			
Imaging			
<b>Bronchopulmonary dysplasia and chronic lung disease of infancy MANDATORY</b>			
1 Developmental anatomy and pathophysiology			●
2 Aetiology, pathogenesis and prevention			●
3 Evidence-based management			●
4 Perinatal preventive measures	●		
5 Nutritional care		●	
6 Neurodevelopmental assessment		●	
7 Long-term outcomes			●
<b>Related modules</b>			
Pulmonary function testing			
Airway endoscopy			
Imaging			
Acute and chronic lung infection			
Bronchial asthma and other wheezing disorders			
Congenital malformations			
Technology-dependent children			
<b>Rare diseases MANDATORY</b>			
1 Pathophysiology, genetics, aetiology, diagnosis and management of primary ciliary dyskinesia			●
2 Diagnosis and management of gastro-oesophageal reflux-associated lung disease			●
3 Diagnosis and management of bronchiolitis obliterans			●
4 Pathophysiology, genetics, aetiology, diagnosis and management of interstitial lung diseases			●
5 Pathophysiology, genetics, aetiology, diagnosis and management of pulmonary vascular disorders including pulmonary arterial hypertension			●
6 Diagnosis and management of pulmonary haemorrhage			●
7 Diagnosis and management of respiratory manifestations of systemic disorders with lung involvement			●
8 Diagnosis and management of respiratory manifestations of oncological disorders with lung involvement			●





## HERMES

	Level 1	Level 2	Level 3
9 Diagnosis and management of respiratory manifestations of muscular-skeletal disorders with lung involvement			●
10 Diagnosis and management of pleural diseases including spontaneous pneumothorax			●
11 Diagnosis and management of respiratory manifestations of immunodeficiency disorders with lung involvement			●
12 Diagnosis and management of other rare lung diseases			●
<b>Related modules</b>			
Pulmonary function testing			
Airway endoscopy			
Acute and chronic lung infection			
Bronchial asthma and other wheezing disorders			
Cystic fibrosis			
Rehabilitation in chronic respiratory disorders			
<b>Sleep medicine MANDATORY</b>			
1 Physiology and pathophysiology of sleep relevant for paediatric respiratory medicine			●
2 Diagnosis and screening for obstructive sleep apnoea and upper airway resistance syndrome and hypoventilation			●
3 Polysomnography		●	
4 Management of sleep-related respiratory problems			●
5 Impact of obesity on respiratory function			●
<b>Related modules</b>			
Pulmonary function testing			
Airway endoscopy			
Congenital malformations			
Technology-dependent children			
<b>Rehabilitation in chronic respiratory disorders MANDATORY</b>			
1 Setting up and coordinating a multidisciplinary team (including physiotherapy, strength and endurance training, psychosocial support, nutrition)			●
2 Evaluation of rehabilitation programmes		●	
3 Knowledge of health education including smoking prevention and cessation, and healthy eating			●
4 Nutritional management		●	
5 Psychological support for children and families		●	
6 Principles of physiotherapy–techniques, indications and limitations			●
7 Assessment of fitness to fly			●
8 Sports medicine		●	
<b>Related modules</b>			
Pulmonary function testing			
Bronchial asthma and other wheezing disorders			
Cystic fibrosis			
Bronchopulmonary dysplasia and chronic lung disease of infancy			
Rare diseases			
Inhalation therapy			
<b>Inhalation therapy MANDATORY</b>			
1 Basic science of aerosol production and delivery			●
2 Indications for inhalation therapy			●
3 Understanding available techniques and their advantages and limitations			●
4 Delivery of drugs in children with artificial airways			●
<b>Related modules</b>			
Bronchial asthma and other wheezing disorders			
Cystic fibrosis			
Rare diseases			
<b>Technology-dependent children MANDATORY</b>			
1 Pathophysiology of chronic respiratory failure			●
2 Home oxygen therapy including control investigations and weaning strategies			●



## HERMES

	Level 1	Level 2	Level 3
3 Invasive and noninvasive home ventilatory support including control investigations and weaning strategies			●
4 Tracheostomy management including control investigations and weaning strategies			●
5 Basic technical understanding of equipment			●
6 Airway clearance techniques (physiotherapy, intermittent positive breathing, insufflator–exsufflator)		●	
7 Recognition of associated problems, setting up and coordinating a multidisciplinary team			●
<b>Related modules</b>			
Pulmonary function testing			
Airway endoscopy			
Cystic fibrosis			
Congenital malformations			
Bronchopulmonary dysplasia and chronic lung disease of infancy			
Rare diseases			
Sleep medicine			
<b>Epidemiology and environmental health MANDATORY</b>			
1 Basic understanding of epidemiological principles including point and period prevalence <i>versus</i> incidence in respiratory diseases such as bronchial asthma, cystic fibrosis, bronchopulmonary dysplasia, tuberculosis			●
2 Impact of indoor and outdoor air pollution on respiratory health			●
3 The burden of paediatric respiratory diseases on healthcare resources			●
<b>Related modules</b>			
All			
<b>Management and leadership MANDATORY</b>			
1 Leadership and collaboration in a multidisciplinary team			●
2 Understanding healthcare resources in relation to paediatric respiratory medicine			●
3 Audit presentation and participation			●
4 Representation of respiratory medicine in the medical community and to the public			●
5 Negotiations with colleagues and other allied professionals			●
6 Understanding of health costs and economics		●	
7 Health care service development and project management			●
<b>Teaching MANDATORY</b>			
1 Knowledge and application of different teaching methods			●
2 Knowledge and application of assessment methods			●
3 Knowledge and application of educational programmes for parents and patients			●
4 Application of teaching methods at all levels of medical education			●
<b>Research MANDATORY</b>			
1 Understanding and application of the principles of planning, designing, conducting, analysing and publishing research projects			●
2 Scientific literature appraisal			●
3 Understanding and application of the ethical principles of paediatric research			●
4 Significant personal contribution to a scientific project and authorship in a peer-reviewed article			●
<b>Communication MANDATORY</b>			
1 Understanding anxieties and social problems of children and their parents, both related and unrelated to respiratory disease			●
2 Ability to discuss diagnosis, treatments and prognoses with children			●
3 Ability to encourage and respect the views of children and their families in decision-making			●
4 Understanding needs of adolescents with chronic lung disease and ability to ease their transition to adult care			●
5 Leadership and collaboration in a multi-disciplinary team, respect and appreciation of the contributions of all members			●
6 Management of complaints in a helpful and nonconfrontational way			●
7 Ability to know when to seek the advice of colleagues			●
8 Ability to support and make time for appraising trainees and other healthcare workers			●
9 Understanding of medical ethics, for both clinical practice and research			●



	Level 1	Level 2	Level 3
10 Knowledge of the articles of the convention of European Human Rights			●
11 Ability to discuss end-of-life decisions with families and young people			●
<b>Rigid and interventional airway endoscopy OPTIONAL</b>			
1 Performance of rigid bronchoscopy including foreign body removal			●
2 Performance of interventional bronchoscopy		●	
<b>Related modules</b>			
All			
<b>Post-lung transplant management OPTIONAL</b>			
1 Nonsurgical management of post-lung transplant patients			●
<b>Related modules</b>			
Pulmonary function testing			
Airway endoscopy			
Acute and chronic lung infection			
Rare diseases			
Rigid and interventional airway endoscopy			
Additional diagnostic tests			
<b>Additional diagnostic tests OPTIONAL (one or more of the following)</b>			
1 Performance and interpretation of exhaled nitric oxide measurements			●
2 Indications, performance and interpretation of induced sputum test			●
3 Measurement and interpretation of oscillatory mechanics (forced oscillation techniques)			●
4 Measurement and interpretation of lung function in non-cooperative children			●
5 Tests of ventilation homogeneity including multiple breath washout techniques			●
6 Principles and interpretation of cardio-respiratory exercise testing			●
7 Polysomnography			●
<b>Related modules</b>			
All			



# 1. THE EUROPEAN TRAINING SYLLABUS IN PAEDIATRIC RESPIRATORY MEDICINE

## 1.1. INTRODUCTION

This document describes the **European Training Program in Paediatric Respiratory Medicine**. It is one of the subspecialist training programs in Tertiary Care Paediatrics, defined by the Paediatric Section of the UEMS. The product of this training program is the **European Paediatric Pneumologist**. It is expected that most European Paediatric Pneumologists, as top-level specialists in PRM, will practice their skills and apply their expertise within the framework of a specialized tertiary care unit, division, department, or hospital.

In general terms, this training program intends...

- to harmonize training programs in PRM between different European countries,
- to establish clearly defined standards of knowledge and skill required to practice PRM on the tertiary care level,
- to foster the development of a European network of competent tertiary care centres for PRM,
- to thereby improve the level of care for children with complex or chronic respiratory disorders,
- to thereby further enhance the European contribution to international scientific progress in the field of PRM.



This document defines the aims of the training, the contents and the duration of the training program, the basic requirements to enter such a program, and a spectrum of required qualifications for training centres and tutors.

## 1.2. AIMS OF TRAINING

### 1.2.1. CONTENT OF TRAINING

The Paediatrician training to become a European Paediatric Pneumologist should acquire: ...

- detailed knowledge of the development, structure and function of the respiratory tract in infants, children and adolescents,
- in-depth knowledge of the aetiology and the pathogenesis of all acute and chronic diseases of the respiratory system in infants, children and adolescents,
- knowledge of and skill in the various specialized diagnostic methods for examination of the respiratory tract in paediatric patients,
- knowledge of and skill in the various specialized therapeutic methods for treating respiratory disorders in paediatric patients,
- knowledge of the prevalence and the epidemiology of paediatric respiratory disorders, including the long-term prognosis of chronic diseases into adulthood,
- complementary expertise in the fields of infectious diseases, allergology and clinical immunology, including knowledge of and skill in relevant diagnostic and therapeutic methods,
- knowledge of the organisational aspects of care for chronic respiratory diseases, including rehabilitation programs, as well as relevant psychosocial aspects,
- understanding of the various legal aspects of paediatric respiratory disease,
- didactic skills for transfer of specialized knowledge to various target groups,



- knowledge of and practical experience in planning, conducting, evaluating and publishing research projects in the field of PRM,
- understanding of the ethical aspects of care for and research in children.

### 1.2.2. PURPOSE OF TRAINING

On the basis of this training, the European Paediatric Pneumologist should be competent in providing clinical care within the framework of a specialized tertiary care unit, division, department, or hospital. This clinical care should be provided both in the inpatient and outpatient setting and should include routine application of various specialized diagnostic and therapeutic methods.

As a result of such training, the trainee should master the assessment of lung function testing in children, including bronchoprovocation testing, as well as long-term monitoring of breathing. In addition, she/he should have acquired considerable practical skill in the technique of flexible bronchoscopy, and expertise in the interpretation of diagnostic tests pertaining to the imaging of the lung, allergy skin testing, analysis of bronchoalveolar lavage fluid, as well as various relevant diagnostic tests in the fields of clinical immunology and infectiology. Each trainee should become proficient in the therapeutic management of all acute and chronic paediatric respiratory disorders, especially in the long-term management of patients with bronchial asthma, cystic fibrosis, and other chronic inflammatory lung diseases. She/he should collect experience in the long-term care for technology-dependent children.



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In addition, the European Paediatric Pneumologist should provide competent consultation and technical assistance to other paediatric subspecialists. To ensure a continuum of caregiving from child- to adulthood for patients with chronic respiratory disorders, she/he should closely cooperate with Adult Pneumologists, both in routine clinical work and in relevant research.

Furthermore, the European Paediatric Pneumologist, on the basis of this training, should serve in relevant administrative capacities to provide the organisatory background for the practice of PRM. As a tertiary care specialist, usually employed in an academical setting, she/he should be involved in regular teaching activities; in addition, each European Paediatric Pneumologist should develop and undertake a personal program of relevant research and publication.

### 1.3. TRAINING PROGRAM

#### 1.3.1. STRUCTURE OF PROGRAM

The training program is structured in **modules**. Each module contains training in a specific area, expertise, or skill. Some modules are defined by content and duration, others by content only. Simultaneous training in different modules is possible, provided such a combination can be accepted as reasonable. A complete training can consist of modules acquired in several different training centres; the number of centres contributing to one specific trainee's program, however, should not exceed a maximum of five, and at least one of these training locations should be a full training centre.

There are two different types of modules, **obligatory** and **desirable**. Obligatory modules are those considered essential for successful training. The whole entity of desirable modules is not considered essential for training in PRM; however, a minimum of three such desirable modules should be attended by each trainee. Modules can also be characterized as either **clinical** or **academical**.



#### 1.3.2. OBLIGATORY MODULES

##### 1.3.2.1. Clinical modules

**Module IPM: Inpatient management** of paediatric patients. The trainee acquires expertise in the management of all hospitalized infants, children and adolescents with acute and chronic respiratory diseases. Full-time assignment of the trainee, who is to be employed in a position of responsibility, is required. The ward or wards in which training takes place must be under the direct medical supervision of the tutor.  
Required minimum: duration of 12 months.

**Module OPM: Outpatient management** of children with various respiratory disorders in a specialized paediatric respiratory outpatient clinic. The trainee is required to provide competent outpatient care in a responsible position under the supervision of the tutor.  
Required minimum: duration of 12 months.

**Module PFT: Pulmonary function testing** in paediatric patients. This training must take place in a lung function laboratory specialising in or exclusive for paediatric patients; the minimum spectrum of techniques available must include spirometry, recording of flow-volume curves, plethysmography, bronchial provocation testing, and blood gas analysis. The trainee becomes proficient in recording, evaluating and interpreting the measurements. In addition, she/he acquires skill in training children to cooperate, as well as gaining experience in hygiene, maintenance and calibration of equipment. Considerable knowledge of the physiological background is mandatory.  
Required minimum: no specifications; completion of training certified by tutor.

**Module FB: Flexible bronchoscopy** including bronchoalveolar lavage in paediatric patients of all age groups. After attending a top-level introductory course, the trainee first attends procedures as assistant, and then performs endoscopies her/himself under the guidance of an expert tutor.  
Required minimum: assist 50 and perform 25 bronchoscopies, including lavages.

**Module ADT: Allergological diagnosis and treatment** of paediatric patients, including practical experience in skin testing and other relevant diagnostic methods, especially in-vitro methods for diagnosing allergy and airway inflammation. Experience in immunotherapy is not mandatory. The training has to focus on children





with asthma and allergic disease of the upper airways, but should also include non-respiratory allergic disorders.

Required minimum: no specifications; completion of training certified by tutor.

**Module IL: Imaging of the lung** of paediatric patients with a wide variety of respiratory disorders. The trainee attends radiology rounds, but also evaluates chest radiographs her/himself under supervision. Additional experience in evaluating CT scans of the lung and MR images of the mediastinum is mandatory.

Required minimum: no specifications; completion of training certified by tutor.

**Module AT: Aerosol therapy** for infants, children and adolescents. The trainee acquires theoretical knowledge and practical experience in prescribing and teaching appropriate modes of aerosol treatment to paediatric patients and parents.

Required minimum: no specifications; completion of training certified by tutor.

**Module CM: Management of congenital malformations** of the respiratory tract. Experience includes a wide variety of lesions in the upper and lower respiratory tract, appropriate diagnostic and therapeutic strategies, especially long-term respiratory care, as well as cooperation with surgical partners.

Required minimum: no specifications; completion of training certified by tutor.

**Module BA: Management of bronchial asthma** in paediatric patients. Experience includes long-term management of the chronic disorder as well as emergency treatment of acute exacerbations, both in the inpatient and outpatient setting. Acquired expertise covers all aspects of asthma treatment in all paediatric age groups.

Required minimum: no specifications; completion of training certified by tutor.

**Module CF: Management of cystic fibrosis** in paediatric patients. The trainee learns to provide care both in an in- and an outpatient setting. Training covers all aspects of cystic fibrosis care, and includes dealing competently with psychosocial issues.

Required minimum: no specifications; completion of training certified by tutor.



**Module WD:** Management of **wheezing disorders** in infants and children. The trainee learns to competently assess and treat recurrent wheezing in the first years of life. This acquired experience includes chronic lung disease of prematurity (bronchopulmonary dysplasia).

Required minimum: no specifications; completion of training certified by tutor.

**Module LI:** Acute and chronic **lung infection**. The trainee acquires experience in the management of children with croup, viral bronchiolitis, and all forms of pneumonitis, including lung abscess, empyema, and bronchiectasis. This experience includes management of childhood tuberculosis in countries with a high prevalence of this disease. Acquired knowledge also covers microbiological techniques for identifying the aetiology of infections and skill in various techniques for sampling infectious material.

Required minimum: no specifications; completion of training certified by tutor.

**Module CA: Consultation and assistance.** The trainee learns to provide competent consultation and technical assistance to other paediatric specialists, especially to oncologists, cardiologists, neonatologists, and intensive care specialists, but also to otolaryngologists, thoracic and paediatric surgeons, and others who manage children with complex conditions that affect the respiratory system. Emphasis is placed on close cooperation with Adult Pneumologists, especially on establishing a continuum of care from child- to adulthood for patients with chronic respiratory disorders.

Required minimum: no specifications; completion of training certified by tutor.

**Module OA: Organisation and administration.** The trainee acquires experience in the administration of medical services in a tertiary care centre and learns to organize and to update diagnostic, therapeutic and educational programs. In addition, the trainee gains experience in applying quality assurance principles in her/his clinical, academical, and organisatory work.

Required minimum: no specifications; completion of training certified by tutor.

### 1.3.2.2. Academic modules



**Module TE: Teaching experience** for transfer of specialized knowledge. The trainee learns to structure, prepare and present lectures to different target audiences. This training includes bedside teaching and preparation of teaching material.  
Required minimum: Ten lectures in two or more teaching programs.

**Module RE: Research experience** in the field of PRM. Under expert supervision, the trainee learns to plan, conduct, evaluate and publish research projects. In addition, she/he gains practical experience in presenting results to an international audience in form of oral or poster presentations.  
Required minimum: One publication in the field of PRM (first author) in an international, peer-reviewed journal, plus one oral or poster presentation at an international meeting.

### 1.3.3. DESIRABLE MODULES

#### 1.3.3.1. Clinical modules

**Module CPT: Chest physiotherapy** for paediatric respiratory diseases and their complications. The trainee acquires experience in cooperation with specialized chest physiotherapists and learns to prescribe and monitor such treatment competently.  
Required minimum: experience of 6 months.

**Module RP: Rehabilitation programs** for chronic respiratory diseases. The trainee gains experience in organising, conducting and evaluating such rehabilitation programs in cooperation with expert colleagues. This training takes place in a unit with a tradition of frequently organised rehabilitation programs, or in a special paediatric respiratory rehabilitation centre.  
Required minimum: no specifications; completion of training certified by tutor.

**Module ET: Exercise testing** for assessing cardiopulmonary function in children. The trainee becomes proficient in all theoretical and practical aspects of paediatric exercise testing, including the physiological background and relevant methodological issues.



Required minimum: no specifications; completion of training certified by tutor.

**Module SST: Sleep studies** in paediatric patients. The trainee acquires knowledge both of the theoretical background and of the practical aspects of paediatric polysomnography, as well as of the management of central and obstructive apnea in children.

Required minimum: no specifications; completion of training certified by tutor.

**Module ILF: Infant lung function testing.** The trainee acquires theoretical knowledge of and practical skill in lung function tests applied in infants and preschool children, including recording and interpretation. In-depth knowledge of the physiological background is mandatory.

Required minimum: expertise acquired in three techniques.

**Module TDC: Management of technology-dependent children.** The trainee learns the principles and details of paediatric tracheostomy care, including control investigations and weaning strategies. In addition, she/he acquires knowledge in the respiratory management of children with neuromuscular disorders, abnormal control of breathing, and severe lung disease by long-term home ventilation and supportive home oxygen therapy.

Required minimum: no specifications; completion of training certified by tutor.

**Module TBC: Management of children with tuberculosis.** The trainee learns relevant diagnostic strategies and competent therapeutic management. In order to provide sufficient clinical experience, this training takes place in a special centre for tuberculosis in children.

Required minimum: no specifications; completion of training certified by tutor.



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**Module ID: Management of children with immune deficiency.** Training includes interpretation of relevant diagnostic tests and clinical long-term management of patients; it takes place in a specialized centre in order to provide sufficient clinical experience.

Required minimum: no specifications; completion of training certified by tutor.

**Module LTX: Lung transplantation** in paediatric patients. Training includes pre-transplantation assessment and post-transplantation long-term management. It takes place in a unit integrated in or closely cooperating with a transplantation centre.  
Required minimum: Participation in management of five patients.

#### 1.3.3.2. Academic modules

**Module SR: Special research activity.** Any personal research program in PRM that clearly exceeds the average should be recognized as special research activity.  
Required minimum: Four or more publications (first author) in the field of PRM in international, peer-reviewed journals.

#### 1.3.4. DURATION OF TRAINING

Complete training in PRM has a minimum duration of **three years**. For each obligatory module, which, by chance, has been undertaken previously in an accredited PRM training centre (i.e. during any previous training in Common Trunk or Secondary Care Paediatrics), the trainee may subtract three months. This reduction of training time in PRM is permissible up to a subtracted maximum of twelve months.

#### 1.3.5. MONITORING OF TRAINING

A training supervisor is assigned to each trainee at the beginning of her/his training. This training supervisor has to be a senior paediatric respiratory tutor; he/she advises the trainee on important training issues and reviews the trainee's progress in yearly intervals.

On a short-term basis, each trainee's progress is monitored by the tutor (or one of the tutors) in the training centre and the trainee her/himself. The trainee maintains a personal log book (portfolio), where she/he documents relevant training experiences. This log book and the trainee's progress through various training modules is discussed with the local tutor(s) in monthly intervals.



Successful completion of a training module is certified by the tutor. This certificate should be detailed, state duration of module, describe acquired knowledge and skill, and accurately quantify extent of theoretical and practical experience accumulated by the trainee.

## 1.4. THE TRAINEE

### 1.4.1. OBLIGATORY PREREQUISITES

Obligatory prerequisites for entering the training program in PRM are:

- completed training in elementary paediatrics; i.e. **common trunk**, or equivalent thereof,
- a basic training (acquired in common trunk or afterwards) in Neonatology,
- a basic training in Paediatric Intensive Care (including competence in resuscitation).

### 1.4.2. DESIRABLE PREREQUISITES

Desirable but not obligatory prerequisites for entering the training program in PRM are:

- basic training in Paediatric Cardiology,
- basic training in Epidemiology and Statistics.



## 1.5. TRAINING CENTRES/TUTORS

Training centres and units are defined by the kind and number of modules they teach and by the available tutors and teachers. These are defined by their qualifications.

Several institutions, located in close proximity, might combine into one training center. In such case, one qualified individual must be designated as training center director who represents this center to the outside and carries the entire responsibility for the offered program.

### 1.5.1. CENTRES/UNITS

#### 1.5.1.1. Full Training Centre

Full training centres are highly specialized tertiary care centres for PRM that can offer a complete training. They are defined by the following features:

- availability of all obligatory modules,
- availability of four or more desirable modules,
- two (or more) accredited tutors.

#### 1.5.1.2. Partial Training Centre

Partial training centres are partially specialized centres, which, however, cannot offer a complete training. They are defined by the following features:

- availability of five or more obligatory modules,
- one (or more) accredited tutor

#### 1.5.1.3. Training Unit

Training units are institutions that are specialized in one or a few particular aspects of PRM. They are defined by the following features:

- availability of one to four modules (obligatory or desirable),
- a teacher competent in these modules

### 1.5.2. TUTORS/TEACHERS



### **1.5.2.1. Paediatric Respiratory Training Director**

A Paediatric Respiratory Training Director is a tutor (vide infra) and head of a full training centre.

### **1.5.2.2. Paediatric Respiratory Tutor**

A tutor is an accredited European Paediatric Pneumologist with the following additional qualifications:

- teaching experience, documented in form of a teaching assignment to a local university,
- a research tradition in PRM.

### **1.5.2.3. Paediatric Respiratory Teacher**

A teacher holds acknowledged expertise in one or in a few particular aspects of PRM, but does neither have to be an accredited European Paediatric Pneumologist, nor have to hold a university assignment or a personal research tradition. Her/his teaching competence in this training program is restricted to one or several defined modules.

## **1.5.3. ACCREDITATIONS**

For each country of the EU, a list of centres, units, training directors, tutors and teachers is compiled and updated in regular intervals. Each centre and unit is defined by the available modules and the tutor(s) or teacher(s) available.



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Accreditation is given by the European Board of Paediatrics upon recommendation of the Long Range Planning Committee of the ERS Paediatric Assembly. In any specific case, the Long Range Planning Committee bases this recommendation on information received from the national PRM training representative (a member of the Committee on Paediatric Respiratory Training in Europe).



A system of centre visits should be institutionalised in the future. Ideally, each accreditation given by the European Board of Paediatrics should then be based on a report from such a centre visit.

## 1.6. NATIONAL TRAINING PROGRAMS

### 1.6.1. EU COUNTRIES WITH EXISTING PROGRAMS

National training programs in PRM that already exist, or are in an advanced stage of development at the time when this European program is implemented, should be considered as compatible when they:

- have a content that is comparable (not strictly identical) with the European program,
- have a duration that does not differ by more than plus/minus one year from the European program,
- and have a board examination at their end.

Each national syllabus should be closely scrutinized by the European Board of Paediatrics and the Long Range Planning Committee of the ERS Paediatric Assembly for compatibility.

### 1.6.2. EU COUNTRIES WITHOUT EXISTING PROGRAMS

National professional medical bodies should be encouraged to adopt a national training program in PRM and to structure it in close compatibility with this European program.

Until implementation of such a national training program, motivated individuals should have the opportunity to train according to this European program and to document their obtained qualification in a relevant board examination on a voluntary basis. The instruments to monitor such a training and to entertain a final examination are again



the European Board of Paediatrics in cooperation with the Long Range Planning Committee of the ERS Paediatric Assembly.

### 1.6.3. NON-EU EUROPEAN COUNTRIES

On a voluntary basis, the same arrangements as listed under 2.6.2. should be applicable.



**SPAIN**

**PRM national training representative responsible:** Prof. Dr L. GARCIA-MARCOS

**Status of national recognition** The Spanish Society for Paediatric Pneumology organised an accreditation system 2 yrs ago using criteria established by a task force within the Society. According to that criteria, paediatricians can apply for recognition by the Society; the European syllabus was unknown at that time. The Spanish Paediatric Association has made attempts for several paediatric subspecialties to be officially approved by the Ministry of Health. These consultations have been held for the last 4–5 yrs but with no result as yet, probably due to the opposition of some of the adult medical specialities representatives.

**Scroll down for the full contact details of these training centres.**

City of institute	Obligatory modules														Desirable modules												
	IM	OM	PF	FB	AD	IL	AT	CM	BA	CF	WD	LI	CA	OA	TE	RE	CP	RP	ET	SS	LF	TD	TB	ID	LT	SR	
Baracaldo	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Barcelona	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Madrid (I)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Madrid (II)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Madrid (III)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Malaga	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
San Sebastian	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Seville	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•



**SPAIN**

**Baracaldo**

Hospital de Cruces  
Unidad de Neumología Infantil  
Pza. De Cruces s/n  
48903 Baracaldo  
Vizcaya

Head of Dept: Dr VÁZQUEZ CORDERO

Contact: Dr VÁZQUEZ CORDERO  
Tel: 34 946006485  
Fax: 34 944992945  
E-mail: cvazquez@hcru.osakidetza.net

**Barcelona**

Hospital Materno Infantil Vall d'Hebron  
Unidad de Neumología Pediátrica y Fibrosis Quística  
Passeig de la Vall d'Hebron s/n  
08035 Barcelona

Head of Dept: Dr COBOS BARROSO

Contact: Dr LINÁN CORTÉS  
Tel: 34 934893170  
Fax: 34 934893039  
E-mail: cex3pi6.hmi@cs.vhebron.es

**Madrid (I)**

Hospital Infantil La Paz  
Unidad de Neumología Pediátrica  
Paseo de la Castellana 261  
28046 Madrid

Head of Dept: Dr ANTELO LANDEIRA

Contact Person: Dr MARTINEZ CARRASCO  
Tel: 34 913580851  
Fax: 34 913582545  
E-mail: [neumoped@hulp.es](mailto:neumoped@hulp.es)

**Madrid (II)**

Hospital Infantil Universitario  
Unidad de Neumología y Alergia Infantil  
Ctra. Andalucía km 5400  
28041 Madrid

Head of Dept: Dr GARCIA HERNÁNDEZ

Contact: Dr GARCIA HERNÁNDEZ  
Tel: 34 913908343  
Fax: 34 913908318  
E-mail: [gloriagh@mx2.redestb.es](mailto:gloriagh@mx2.redestb.es)

**Madrid (III)**

Hospital del Niño Jesús  
Unidad de Neumología  
Avenida Menéndez Pelayo 65  
28009 Madrid

Head of Dept: Dr VILLA ASENSI

Contact: Dr VILLA ASENSI  
Tel: 34 915735200  
Fax: 34 915744669

E-mail: [jvilla@nacom.es](mailto:jvilla@nacom.es)

**Malaga**

Hospital Materno Infantil Carlos Haya  
Unidad de Neumología Infantil  
Avenida Carlos Haya s/n  
29010 Malaga

Head of Dept: Dr PÉREZ FRIAS

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Tel: 34 952285041  
Fax: 34 952285041  
E-mail: [fperez@nexo.es](mailto:fperez@nexo.es)

**San Sebastian**

Hospital Ntra. Sra. de Aránzazu  
Unidad de Neumología Infantil  
Paseo de Beguiristain s/n  
20014 San Sebastian

Head of Dept: Dr GONZÁLEZ PÉREZ-YARZA

Contact: Dr GONZÁLEZ PÉREZ-YARZA  
Tel: 34 943007000  
Fax: 34 943460758  
E-mail: [aneumoin@chdo.osakidetza.net](mailto:aneumoin@chdo.osakidetza.net)

**Seville**

Hospital Universitario Virgen de la Macarena  
Unidad de Neumología Infantil  
Dr Fedriani 3  
41071 Sevilla

Head of Dept: Dr NAVARRO MERINO

Contact: Dr NAVARRO MERINO  
Tel: 34 954447400  
Fax: 34 954557347  
E-mail: [mnm01se@nacom.es](mailto:mnm01se@nacom.es)



ACTA FUNDACIONAL DE LA SOCIEDAD ESPAÑOLA DE NEUROLOGIA PEDIATRICA

En la ciudad de Murcia se reúnen el día 9 de Octubre de 1993 los señores:

Jaume Campistol Plana D.N.I. ,con domicilio en :

Rafael Palencia Luces D.N.I.: domicilio en:

Carlos Casas Fernández, D.N.I.: con domicilio en:

Miguel Rufo Campos,D.N.I.: con domicilio en:

Manuel Castro Gago D.N.I.: con domicilio en:

José Luis Herranz Fernández,D.N.I.: con domicilio en:  
licenciados en Medicina y Cirugía y  
Neuropediatras.

Todos ellos son miembros de la Sociedad Española de Neuropediatría y de la Sección de Neuropediatría de la Asociación Española de Pediatría y con voluntad de unificar los esfuerzos y objetivos científico-médicos de la Neuropediatría.

De común acuerdo deciden constituir la Sociedad Española de Neurología Pediátrica de conformidad con los estatutos que se acompañan y unen a la presente acta.

Así mismo de conformidad con los estatutos se ha nombrado por unanimidad la Junta Directiva formada por:

Presidente :Jaume Campistol Plana

Secretario: Rafael Palencia Luces

Tesorero: Carlos Casas Fernández

Vocales: Miguel Rufo Campos

Manuel Castro Gago

José Luis Herranz Fernández

El domicilio social es el del presidente: Vía Augusta 211, 1º-1ª  
08021 Barcelona

Fdo:    
Jaume Campistol Plana Rafael Palencia Luces Carlos Casas Fdez

Miguel Rufo Campos Manuel Castro Gago J.L.Herranz Fdez



CAPITULO I

DENOMINACION,OBJETO,DOMICILIO

Artículo 1º.- Con el nombre de Sociedad Española de Neurología Pediátrica se constituye una Asociación de ámbito nacional de carácter científico, resultante de la unificación de la Sociedad Española de Neuropediatría y la Sección de Neuropediatría de la A.E.P.En su seno se integrarán los médicos especialistas con dedicación profesional exclusiva ó preferente a la Neuropediatría.

El domicilio social es el del Presidente de la Junta

CAPITULO II

DE LOS FINES DE LA SOCIEDAD ESPAÑOLA DE NEUROLOGIA PEDIATRICA

Artículo 2º.-Los principales fines de la Sociedad Española de Neurología Pediátrica serán los siguientes:

- 1.Promover y fomentar el estudio de la Neurología Pediátrica ,incluyendo sus vertientes clínica,docente e investigadora y sus aspectos evolutivos.
- 2.Facilitar la información sobre esta materia y el intercambio de la misma con otras especialidades involucradas directa ó indirectamente en los problemas neurológicos de la infancia:pediatras,psicólogos, psiquiatras, neurofisiólogos, bioquímicos,farmacólogos,rehabilitadores,genetistas, anatomopatólogos, obstetras, etc.
- 3.Convocar Cursos y Reuniones sobre temas de Neuropediatría tanto entre sus miembros,como con otras Sociedades médicas nacionales ó extranjeras.
- 4.Asesorar a la Asociación Española de Pediatría(AEP) a la Sociedad Española de Neurología(SEN) y a otras sociedades en los temas relacionados con la Neurología Pediátrica.
- 5.Cualquier otro fin científico relacionado especialidad de Neuropediatría.



### CAPITULO III

#### DE LOS SOCIOS

Artículo 3º.- La Sociedad Española de Neurología Pediátrica se compone de los siguientes miembros:

1. Socios numerarios. Podrán serlo las personas en posesión del título de Licenciado ó Doctor en Medicina cuya actividad exclusiva ó preferente sea la Neuropediatría y que sean también miembros de la SEN y/ó de la AEP. Tendrán voz y voto.

Adquieren dicha condición los que en el momento de la aprobación de los presentes Estatutos sean miembros numerarios de la Sociedad Española de Neuropediatría ó de la Sección de Neuropediatría de la AEP.

Para poder ser admitidos como miembros numerarios, lo que se efectuará en la Asamblea General, se tendrá que formalizar la correspondiente solicitud ante la Junta Directiva, aportando curriculum profesional detallado, siendo necesario al menos dos publicaciones y dos comunicaciones neuropediátricas, en dos Reuniones de la Sociedad Española de Neurología Pediátrica, figurando en ambas como primer firmante.

2. Socios agregados. Es una situación previa para alcanzar la anterior y en la que se incluirán, previa aprobación por la Asamblea General, los que, no reuniendo todavía los requisitos para ser Socio Numerario, muestran un interés especial por la Neuropediatría. Deberán haber presentado al menos dos comunicaciones en Reuniones de la Sociedad Española de Neuropediatría y no tendrán derecho a voto.

3. Socios adheridos. Podrán serlo los profesionales dedicados a especialidades afines (neurofisiología, neuro-radiología, neuropatología...) pero con especial interés personal por problemas neuropediátricos, tras solicitud a la Junta Directiva y aprobación por la Asamblea General. No tendrán derecho a voto.

4. Socios de honor. Serán las personalidades nacionales ó extranjeras que por sus méritos, sean acreedoras de tal distinción, a propuesta de la Junta Directiva, por unanimidad, y ratificación por la Asamblea General.

5. Socios eméritos. Pasarán a esta situación todos los numerarios al alcanzar la jubilación. No tienen derecho a voto.

Las solicitudes para la admisión como miembro de cualquier tipo se dirigirán a la Secretaría de la Sociedad Española de Neurología Pediátrica, acompañadas del curriculum profesional y avaladas por dos miembros numerarios. Serán estudiadas por la Junta Directiva y presentadas en la siguiente Asamblea General. Sólo serán admitidas las personas que alcancen 2/3 de los votos de la Asamblea General.




## CAPITULO IV

### DE LOS DERECHOS Y DEBERES DE LOS SOCIOS

Artículo 4º.-Son derechos de los miembros numerarios:

- 1.Asistir y participar en todos los actos de la Sociedad Española de Neurología Pediátrica e intervenir,con voz y voto,en cuantos asuntos se debatan.
- 2.Ser electores y elegibles para los cargos de la Junta Directiva.
- 3.Proponer a la Junta Directiva cuantos aspectos considere de interés en el ámbito de la Neuropediatria.
- 4.Estar informado sobre las actividades y proyectos de la Sociedad Española de Neurología Pediátrica.

Los miembros agregados y adheridos tendrán los derechos mencionados en los apartados 3 y 4 y podrán participar con voz,pero sin voto,en las Reuniones Administrativas de la Sociedad Española de Neurología Pediátrica.

Los socios de honor tendrán derecho a asistir a las reuniones científicas de la Sociedad y presentar comunicaciones en las mismas,sin facultad para elegir ó ser elegidos para cargo alguno,ni tampoco voto en las Asambleas.

Artículo 5º.-Son deberes de los socios numerarios,agregados y adheridos:

- 1.Colaborar activamente en el desarrollo de los fines de la Sociedad
- 2.Satisfacer las cuotas correspondientes,determinadas por la Junta Directiva y confirmadas por la Asamblea General.
- 3.Evitar las acciones contrarias a los intereses de la Sociedad

Artículo 6º.-Los socios causarán baja por alguna de las causas siguientes:

- 1.Por renuncia voluntaria,comunicado por escrito a la Junta Directiva.
- 2.Por acuerdo de la Junta Directiva,ratificada por la Asamblea General, cuando incumpla sus deberes,especialmente reiterada inasistencia a las reuniones(en el caso de socios numerarios y agregados) ó por falta de abono de dos cuotas anuales.

## CAPITULO V

### DE LA JUNTA DIRECTIVA

Artículo 7º.-La Junta Directiva estará formada por un Presidente,un Secretario ,un Tesorero y tres Vocales(uno de ellos el Presidente saliente).





Artículo 8º.-La Junta Directiva será elegida,entre las candidaturas propuestas,mediante votación secreta, por los miembros numerarios reunidos en Asamblea General.

La duración de los cargos de la Junta Directiva será de dos años,pudiendo ser reelegidos sólo una vez con carácter correlativo,salvo el Presidente que sólo desempeñará su cargo dos años.

Artículo 9º.- Para la renovación de la Junta Directiva se procederá:

1.La Junta Directiva anunciará a los socios,con dos meses de antelación a la fecha de la Asamblea General anual,la renovación de sus miembros y la candidatura propuesta por la misma gente.

2.Se aceptarán,además de la candidatura oficial referida en el anterior apartado,todas las candidaturas completas ó individuales que sean avaladas al menos por un 10% de los miembros numerarios.

3.En la Asamblea General se harán publicas las candidaturas,que pasarán a votarse de forma nominal y secreta.De no obtener ninguna candidatura la mayoría absoluta en la primera votación,se realizará una segunda votación,en la que basterá la mayoría simple.

4.Se admitirá el voto enviado por correo en doble sobre y remitido al Secretario al menos cinco días antes de la votación.

Artículo 10º.-La Junta Directiva se entenderá constituida respecto a validez de sus acuerdos,cuando asistan al menos la mitad de sus componentes,incluyendo en siempre al Presidente ó miembro de la misma en quién delegue .

Los acuerdos se tomarán por mayoría de los votos presentes,siendo el voto del Presidente de calidad en caso de empate.

Artículo 11º.-Serán deberes y facultades de la Junta Directiva:

1.Dirigir la Sociedad de acuerdo con los presentes Estatutos y con la voluntad soberana de los miembros numerarios expresada en las Asambleas Generales.

2.Representar a la Sociedad en cualquier instancia.

3.Velar por el cumplimiento de sus Estatutos.

4.Convocar las Juntas Directivas,Reuniones Científicas,Asambleas Generales ordinarias y extraordinarias.

5.Ejecutar los acuerdos tomados en las Asambleas Generales.

6.Administrar los bienes de la Sociedad .




Artículo 12º. Corresponderán al Presidente las funciones siguientes:

1. Representar a la Sociedad ante Asociaciones ó entidades nacionales, especialmente la AEP y SEN, ó extranjeras relacionadas con la neuropediatría.
2. Convocar y presidir la Junta Directiva y la Asamblea General, así como las Reuniones, Ponencias ó cualquier otro acto celebrado en el seno de la Sociedad.
3. Ostentar la representación de la Sociedad en todos los actos así como ante organismos y tribunales, con amplias facultades, incluida la delegación de poderes para tales fines.
4. Suscribir con el Secretario las actas de las Reuniones/Asambleas y de documentos de la Sociedad, así como autorizar con el Visto Bueno los documentos de Tesorería.

Artículo 13º. -Serán deberes y facultades del Secretario:

1. Levantar Acta de las Reuniones y Asambleas que se celebran, que firmará con el Presidente.
2. Custodiar la documentación social.
3. Controlar el fichero de los Asociados.
4. Expedir las certificaciones oportunas, con autorización y Visto Bueno del Presidente.
5. Firmar, con el Presidente, y distribuir, convocatorias, hojas informativas, avisos, etc.
6. Informar a los socios de las decisiones de la Junta Directiva y de las Asambleas Generales.
7. Cualquier otra función encomendada por la Asamblea General, por la Junta Directiva ó por el Presidente de la Sociedad.

Artículo 14º. -Corresponde al Tesorero:

1. La administración de los bienes de la Sociedad, el cobro de las cuotas establecidas y la información anual y justificación del estado de cuentas de la Sociedad, que se someterá a la aprobación de la Asamblea General.
2. Llevar los Libros de Contabilidad de la Sociedad y tenerlos bajo su custodia.

Artículo 15º. Los Vocales tendrán como misión asistir a las Juntas con voz y voto y colaborar en las funciones de la Junta Directiva, sustituyendo a cualquiera de los restantes componentes de la misma, en caso de ausencia, enfermedad ó dimisión, así como desempeñar las funciones ó comisiones que les sean expresamente ordenadas por el Presidente ó por la Asamblea.



Artículo 16º.-El cese de los miembros de la Junta Directiva se puede producir por:

- 1.Expirar el plazo para el que fueron elegidos.
- 2.Renuncia personal.
- 3.Pérdida de la condición de Socio Numerario.

4.A propuesta de los miembros numerarios,siempre que lo aprueben en votación secreta los dos tercios de los asistentes a la Asamblea General,siempre que sean al menos el 50% de los socios con derecho al voto.

Artículo 17º.-De producirse algún cese ó dimisión de los miembros de la Junta Directiva el cargo será cubierto,a propuesta del Presidente y con la aprobación de la Junta.Si cesa el Presidente,será sustituido hasta las siguientes elecciones por el primer vocal de la Junta Directiva.

## CAPITULO VI

### DE LA ASAMBLEA GENERAL

Artículo 18º.-

Las Asambleas Generales ,a las que tienen el derecho a asistir todos los Socios,serán Ordinarias y Extraordinarias.Una vez constituidas conforme a estos Estatutos serán el órgano supremo de la Sociedad.

La Asamblea Ordinaria se reunirá una vez al año,en el curso de la correspondiente reunión científica.La Asamblea Extraordinario se reunirá cuando lo juzgue oportuno la Junta Directiva,ó cuando lo solicite al menos un tercio de los socios numerarios de la Sociedad.

Artículo 19º.-La Asamblea General ordinaria será convocada por la Junta Directiva con un mes de antelación como mínimo,mediante comunicación individual a cada socio remitida por el Secretario,en la que se especifique lugar,día , hora y el Orden del Día que debe contener al menos los siguientes puntos: 1)informe del Presidente,2)informe del Secretario,3)informe del Tesorero, 4)Ruegos y preguntas,5)otros asuntos(si procede).

Artículo 20º.-En cada Asamblea se tratarán los asuntos fijados en el orden del día,y en cada sesión se dará lectura,para ser sometido a su aprobación,del Acta de la Asamblea anterior.




En la Asamblea general Ordinaria deberá rendirse cuenta por la Junta Directiva, de su gestión durante el año.

La Asamblea General podrá presentar mociones de censura a la actuación de la Junta Directiva. Para ser considerada como tal deberá ser aprobada por una mayoría de dos tercios de los socios numerarios presentes, siempre que sean al menos el 50% del total de los mismos, en votación secreta. La aprobación de una moción de censura, traerá consigo la dimisión de la Junta Directiva.

Artículo 21º.- La Asamblea General quedará legalmente constituida tanto en sesión Ordinaria como Extraordinaria, con la concurrencia de la mitad más uno de los socios en primera convocatoria y de cualquier número de socios en segunda convocatoria, que se celebrará una vez transcurridos 30 minutos de la primera convocatoria.

Constituida la Asamblea, los asuntos se decidirán por mayoría de votos, excepto la moción de censura que requerirá el apoyo de dos tercios de los socios numerarios presentes.

De todo lo tratado en la Asamblea General se levantará, por el Secretario, el correspondiente Acta, haciéndose constar textualmente las proposiciones ó votos particulares que expresamente solicite cualquier socio.

## CAPITULO VII

### DE LAS REUNIONES

Artículo 22º.- Para llevar a cabo los fines establecidos en el presente Reglamento la Sociedad mantendrá las siguientes reuniones:

1. De la Junta Directiva.
2. Asambleas Generales.
3. Reuniones y Congresos científicos

Artículo 23º.- La Junta Directiva se reunirá al menos dos veces el año, ante convocatoria del presidente remitida a los miembros al menos con un mes de antelación. Los acuerdos se tomarán por mayoría simple. De los acuerdos adoptados se informará a los miembros de la Sociedad.

También se reunirá la Junta Directiva:

1. A petición de la mayoría de sus miembros.
2. A petición de la mitad más uno de los miembros numerarios.



Artículo 24º.-Las Reuniones Científicas se celebrarán al menos una vez al año,teniendo carácter de Congreso Nacional cada 4 años.La Asamblea General elegirá al miembro numerario organizador de las Reuniones Científicas y los Congresos,así como los temas ó ponencias a desarrollar entre las propuestas por el organizador,la Junta Directiva y la Asamblea.Todas estas elecciones se realizarán por mayoría absoluta de los esistentes con derecho a voto en primera votación ó mayoría simple en segunda,si fuese preciso.

### CAPITULO VIII

#### DE LA ADMINISTRACION

Artículo 25º.-Los recursos económicos de la Sociedad consistirán en las cuotas que la Asamblea General determine a los socios,así como los donativos,legados,herencias ó subvenciones y los ingresos por realización de estudios,informes ,étc,encargados por entidades ajenas y de conformidad con los fines de la Sociedad establecidos en el Capítulo II de este Reglamento.

### CAPITULO IX

#### ORGANOS DE DIFUSION

Artículo 26.-La Sociedad Española de Neurología Pediátrica utilizará como órganos de difusión,información y de expresión científica preferentemente los correspondientes de la AEP y la SEN.




CAPITULO X

MODIFICACION DEL REGLAMENTO

Artículo 27º.-Este Reglamento podrá ser modificado a propuesta de la Junta Directiva en Asamblea General Extraordinaria en cuyo orden del día figure expresamente,y mediante la aprobación de dos tercios de los miembros numerarios .

Jeume Campistol Plans D.N.I:  
Rafael Palencia Luaces DNI :  
Carlos Casas Fernández DNI :  
Miguel Rufo Campos DNI:  
Manuel Castro Gago DNI:  
José Luis Herranz Fernández DNI:



## ANEXO E13-2

### NORMATIVA PARA LA ACREDITACIÓN DE UNIDADES DOCENTES

En la actualidad creemos adecuado aceptar dos tipos unidades:

**a. Unidades con Acreditación Docente para la formación en Neurología Pediátrica** (“*Full training centers*” en el Syllabus de la EPNS). Unidades Docentes con programa y recursos completos. Estas unidades podrán formar *Especialistas en Neurología Pediátrica* cumpliendo los programas de la SENEP. El tiempo de estancia en estos centros se considerará como tiempo acreditado en formación en Neurología Pediátrica. Los médicos formados en estas unidades podrán optar a completar su formación en otras unidades si así los establecen sus planes de formación.

**b. Unidades Docentes Acreditadas parcialmente para la formación en Neurología Pediátrica** (“*Partial training center*” en el Syllabus). Unidades que ofrezcan un programa parcial pero en profundidad. Estas unidades deben tener uno o más neuropediatras acreditados con capacidad docente y ofrecer un programa que, aunque no cubra toda la formación, ofrezca un adecuado nivel. Estas unidades deben estar relacionadas con otra/otras Unidades con Acreditación Docente donde sus candidatos puedan completar la formación global requerida en el citado programa. El tiempo de estancia en estos centros se considerará como tiempo acreditado en formación en Neurología Pediátrica.

#### A. NORMATIVA PARA EL NOMBRAMIENTO DE UNIDADES DOCENTES ACREDITADAS PARA LA FORMACIÓN EN NEUROLOGÍA PEDIÁTRICA

1. La solicitud de Acreditación debe ser remitida a la SENEP por un médico de la unidad que tenga Acreditación en Neurología Pediátrica emitida por la AEP o la SEN. Esta solicitud debe ser remitida por correo electrónico, documento PDF dentro del plazo establecido para ello. Una vez evaluada por el Comité de Acreditación y Docencia de la SENEP, la resolución se comunicará por escrito a los solicitantes y se hará pública en la Asamblea General de Socios.
2. El título de Unidad con Acreditación Docente tendrá una duración de cinco años, tras los cuales deberá renovarse. En caso de que durante este periodo las circunstancias de la unidad cambien sustancialmente, la SENEP podrá proceder a anular la Acreditación de la Unidad. En caso de que no se produzca una resolución ministerial que regule de forma oficial los criterios de las unidades docentes, se procederá regularmente a

un nuevo proceso de acreditación de las unidades cada cinco años.

3. En la solicitud es necesario acreditar que la unidad solicitante se enmarca dentro de un ámbito hospitalario que actúa como referente para Neurología Pediátrica de la provincia, comunidad autónoma o ámbito nacional.
4. En la solicitud es necesario acreditar que el centro hospitalario dispone de los servicios imprescindibles para un adecuado desarrollo de la actividad docente y asistencial y que incluya al menos las siguientes unidades, secciones o servicios: Neurocirugía, Neurorradiología, Neurofisiología, Genética y Anatomía Patológica etc. Se incluirán datos básicos de la memoria asistencial, docente e investigadora del centro hospitalario.
5. En la solicitud de deben acreditar los recursos humanos de la unidad, explicitándose el número de componentes, su antigüedad en la función que desempeñan, la modalidad de socio con que se integran en la SENEP y su vinculación o no a alguna dedicación específica dentro de la unidad. La plantilla debe contar con un neuropediatra acreditado, con dedicación plena, por cada candidato en formación.<sup>1</sup>
6. En la solicitud de deben describir los recursos materiales de la unidad, número de camas, espacio en área de consultas.
7. En la solicitud se debe detallar la actividad asistencial de la unidad en el año anterior a la solicitud: número de ingresos anuales, número de consultas externas anuales y actividades especiales de la unidad (exploraciones neurofisiológicas, biopsias, administración de toxina botulínica, evaluaciones neuropsicológicas, etc.).
8. Actividad docente e investigadora de la unidad, explicitándose su productividad en los 5 años anteriores, con mención a la asistencia a reuniones y congresos, cursos de doctorado impartidos, cursos de especialización y publicaciones en libros y en revistas científicas, proyectos de investigación y participación en redes de centros.
9. Disponer de un programa de formación en Neurología Pediátrica, en que se especifiquen las diferentes rotaciones y sus tiempos, así como estancias formativas en otros departamentos/servicios/unidades del propio hospital (Neurorradiología, Oftalmología, Ortopedia, etc.) o de hospitales con los que se establezca un acuerdo de complementariedad a este efec-

<sup>1</sup> En la rueda de consultas algunos me habéis sugerido que lo que parece más práctico es que el solicitante tenga que ser acreditado, pero no parece necesario que solo se pueda admitir un número de residentes igual al número de miembros acreditados. Es posible que sea más razonable exigir solo un residente por cada socio numerario.



to. El programa de formación se atenderá a las líneas generales del Programa propuesto por la SENEP, tras aprobación por el Comité de Docencia y Acreditación. Cada Unidad elaborará, no obstante, su propio programa que, cubriendo los objetivos esenciales requeridos por la SENEP, refleje las especiales características y recursos asistenciales e investigadores de la Unidad solicitante.

**B. NORMATIVA PARA EL NOMBRAMIENTO DE UNIDADES DOCENTES ACREDITADAS PARCIALMENTE PARA LA FORMACIÓN EN NEUROLOGÍA PEDIÁTRICA**

1. La solicitud de Acreditación como Unidad Docente Acreditada Parcialmente debe ser remitida a la SENEP por un médico de la unidad que tenga Acreditación en Neurología Pediátrica emitida por la AEP o la SEN. Esta solicitud debe ser remitida por correo electrónico, documento PDF dentro del plazo establecido para ello. Una vez evaluada por el Comité de Acreditación y Docencia de la SENEP, la resolución se comunicará por escrito a los solicitantes y se hará pública en la Asamblea General de Socios.
2. El título de Unidad con Acreditación Docente Acreditada parcialmente tendrá una duración de cinco años, tras los cuales deberá renovarse. En caso de que durante este periodo las circunstancias de la unidad cambien sustancialmente, la SENEP podrá proceder a anular la Acreditación de la Unidad. En caso de que no se produzca una resolución ministerial que regule de forma oficial los criterios de las unidades docentes, se procederá regularmente a un nuevo proceso de acreditación de las unidades cada cinco años.
3. Disponer de un programa de formación en Neurología Pediátrica, en que se especifiquen las diferentes rotaciones y sus tiempos, así como estancias formativas en otros departamentos/servicios/unidades del propio hospital o de hospitales con los que se establezca un acuerdo de complementariedad a este efecto. El programa de formación se atenderá a las líneas generales del Programa propuesto por la SENEP, tras aprobación por el Comité de Docencia y Acreditación.
4. En la solicitud es necesario aportar información del hospital al que pertenece la unidad solicitante, incluyendo los servicios que se relacionan con la especialidad. Se incluirán datos de la memoria asistencial, docente e investigadora del centro hospitalario.
5. En la solicitud de deben acreditar los recursos humanos de la unidad, explicitándose el número de componentes, su antigüedad en la función que desempeñan, la modalidad de socio con que se integran en la SENEP y su vinculación o no a alguna dedicación específica dentro de la unidad. En la solicitud de deben describir los recursos materiales de la unidad, número de camas, espacio en área de consultas.
6. En la solicitud se debe detallar la actividad asistencial de la unidad en el año anterior a la solicitud: número de ingresos anuales, número de consultas externas anuales y actividades especiales de la unidad.
7. Actividad docente e investigadora de la unidad, explicitándose su productividad en los 5 años anteriores, con mención a la asistencia a reuniones y congresos, cursos de doctorado impartidos, cursos de especialización y publicaciones en libros y en revistas científicas, proyectos de investigación y participación en redes de centros.







MINISTERIO  
DE INDUSTRIA, TURISMO  
Y COMERCIO



Oficina Española  
de Patentes y Marcas

EJEMPLAR PARA EL INTERESADO

Tipo de Comunicación: Correo electrónico.

**Interesado:**  
**SOCIEDAD ESPAÑOLA DE NEUROLOGIA**  
**PEDIATRICA**  
**VIA AUGUSTA, 211**  
**BARCELONA**  
**08021 BARCELONA**

**Agente - 0903 (2)**  
**TOLEDO ALARCON, EVA**  
**C/ GERONA,17-1 A-B**  
**ALICANTE**  
**03001 ALICANTE**

**Expediente**

<b>Modalidad:</b> MARCA NACIONAL	<b>Número:</b> 2905521 / 0	<b>Clases Solicitadas:</b> 41
<b>Distintivo Solicitado:</b> SENEP		<b>Tipo:</b> DENOMINATIVA

**RESOLUCIÓN DE CONCESIÓN**

Publicada la presente solicitud de registro de MARCA NACIONAL en el Boletín Oficial de la Propiedad Industrial (B.O.P.I.) de 18/02/2010 conforme a lo previsto en el art. 18 de la Ley 17/2001, de Marcas, (B.O.E. Núm, 294, de 8 de diciembre), no fue formulada ninguna oposición contra la misma en la forma y plazo establecidos en el art. 19 de la citada Ley.

Sometida asimismo al exámen de oficio regulado en el art. 20.1 de la mencionada Ley no hay ningún reparo que señalar a la presente solicitud de registro de marca nacional.

En consecuencia, de conformidad con lo establecido en el apartado 2 del propio art. 20 se acuerda la CONCESIÓN TOTAL del registro solicitado.

Esta resolución se publicará en el B.O.P.I. de fecha 29/06/2010, pudiendo interponerse contra la misma **recurso de alzada** ante el Sr. Director de la Oficina Española de Patentes y Marcas, en el plazo de UN MES a contar desde la fecha de la citada publicación.

*AVISO : Una vez efectuada la indicada publicación de la resolución de concesión en el B.O.P.I., deberá ser recogido el título registro de la presente marca nacional. El registro de la misma se otorga por diez años contados desde la fecha de presentación de la solicitud (16/12/2009), debiendo renovarse por periodos sucesivos de diez años.*

Madrid, 07 de junio de 2010

EL EXAMINADOR PROPONENTE

PARIS CAMPOS



CONFORME  
EL DIRECTOR DEL DEPARTAMENTO

P.D. EL JEFE DEL SERVICIO DE EXAMEN  
(Resolución de 03/09/2007)  
LIBORIA LAFUENTE



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## ANEXO E13-4

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### CONVOCATORIA 2007-08 PARA LA SOLICITUD DE ACREDITACIÓN EN NEUROLOGÍA PEDIÁTRICA POR LA ASOCIACIÓN ESPAÑOLA DE PEDIATRÍA.

#### Naturaleza de la Acreditación

La Acreditación en Neurología Pediátrica avala documentalmente la posesión efectiva del conjunto de conocimientos, habilidades y actitudes necesarios y complementarios de los ya adquiridos durante el periodo de formación en la especialidad de Pediatría, para la atención a los pacientes en edad pediátrica afectados de patologías neurológicas y contribuir al progreso de los conocimientos en dicho área. El importante interés asistencial y científico de la Neurología Pediátrica está sostenido por la propia demanda sanitaria y por la dedicación efectiva de un extenso grupo de especialistas esta Área Específica. Por ello se abre una nueva convocatoria para solicitar dicha Acreditación.

#### Requisitos para su obtención:

La Asociación Española de Pediatría (AEP) concederá la Acreditación en Neurología Pediátrica, mediando la propuesta de la Sociedad Española de Neurología Pediátrica (SENP), a los especialistas en Pediatría y sus Áreas Específicas que reúnan las siguientes condiciones:

1. Estar en posesión del título de Especialista en Pediatría.
2. Ser socio numerario de la Asociación Española de Pediatría.
3. Ser socio numerario de la Sociedad Española de Neurología Pediátrica (ver artículo 3º - 1 de los Estatutos de la SENP) con un mínimo de 5 años de antigüedad.
4. Envío de la solicitud, del curriculum vitae, y de los eventuales documentos anexos, al Secretario de la Sociedad Española de Neurología Pediátrica, Dr. Pedro Castro de Castro, **por vía postal ordinaria y por e-mail:** c/ Luchana, nº 15, 28010 Madrid pcastrocc@gmail.com

**El plazo de presentación** de solicitudes termina el 30 de marzo e 2008. El Secretario de la SENP acusará recibo de la documentación a cada solicitante.

La AEP asumirá la responsabilidad de comprobar el cumplimiento de las condiciones 1 y 2. Por su parte, la SENP se responsabiliza de comprobar el cumplimiento de las condiciones 3 y 4 y de transmitir a la AEP el informe favorable o desfavorable referente a cada candidato.

Los solicitantes recibirán noticia del informe positivo o negativo de la evaluación que se realice por ambas Sociedades, a lo largo de junio de 2008. Las Acreditaciones serán entregadas por el Presidente de la AEP, o por la persona en quien delegue, en el curso de la Asamblea de Socios a celebrar durante la próxima Reunión Nacional de la SENP, el 18-19 de septiembre 2008, en Zaragoza.

Madrid, 11 de noviembre de 2007

Dr. Alfonso Delgado Rubio, Presidente de la AEP

Dr. Juan Narbona García Presidente de la SENP



## **Propuesta de programa de formación en el Área de Capacitación Específica (ACE) de Neurología Pediátrica.**

Texto corregido tras revisión por el Comité de Docencia y Acreditación de la SENP y por los Jefes de Unidades Docentes Acreditadas (30 de octubre de 2007). Sirve de marco general propuesto por nuestra Sociedad para el futuro reconocimiento oficial del ACE de Neurología Pediátrica.

### ***1. Denominación del ACE y requisitos de la titulación:***

-Neurología Pediátrica (Neuropediatria).

-Duración de la formación específica: mínimo 2 años, además de completar la Especialización en Pediatría o en Neurología según el Programa MIR (o el equivalente convalidado del país de origen, en el caso de candidatos extranjeros).

- En la actualidad se admite por la SENP haber realizado, como mínimo, los tres primeros años de una de dichas especialidades, con lo que la formación en la Especialidad troncal + el ACE de Neuropediatria viene durando 5 años como mínimo, siendo uno de ellos fuera del periodo MIR.
- Para el futuro desarrollo oficial del ACE de Neuropediatria, entre otras, cabe la posibilidad de articular un calendario específico para este ACE con 2 años iniciales de Pediatría o de Neurología más 3 ó 4 años de Pediatría-Neuropediatria o de Neurología-Neuropediatria, lo que posibilitaría obtener el Título de Especialista en Pediatría o en Neurología, según el área troncal en la que el candidato haya iniciado su formación, más el ACE de Neurología Pediátrica. Según esta propuesta, la duración total de la formación sería de 5-6 años si se consiguiese que la formación MIR cubriese todo el periodo de formación (ver más detalladamente este aspecto en el Apartado 6: Organización de la formación. Periodos y rotaciones). Caben, asimismo, soluciones intermedias dependiendo de la duración de la formación MIR en especialidades clínicas en la futura Ley.

-Titulaciones previas para obtener la titulación del ACE: Licenciatura en Medicina y Especialización en Pediatría o en Neurología.

### ***2. Definición de la Neurología Pediátrica y competencias:***

La Neurología Pediátrica, o Neuropediatria, es un área específica de la Pediatría y de la Neurología que abarca, a un nivel avanzado, los conocimientos y las habilidades practicas necesarios para estudiar el desarrollo neurológico normal y realizar la prevención, el diagnóstico y el tratamiento de los trastornos y enfermedades del sistema nervioso y del sistema neuromuscular del ser humano desde la edad embrionaria hasta la adolescencia.

Es una disciplina pediátrica porque se encuadra en el ámbito de la Pediatría y sus Áreas Específicas y es, a la vez, una disciplina neurológica porque recoge los conocimientos y



modos de hacer de la Neurociencia básica y clínica, con los matices impuestos por el hecho del desarrollo.

Los orígenes de la Neuropediatría como disciplina sistematizada se remontan a mediados del siglo XX con los estudios acerca del desarrollo neurológico temprano y su semiología clínica. Luego, rápidamente, en grandes hospitales de todo el mundo, fueron creándose Servicios y Unidades asistenciales y de investigación en Neuropediatría y se publicaron los primeros tratados monográficos sobre las enfermedades neurológicas de la niñez. Ha sido relevante la contribución española a los conocimientos de esta disciplina y, de hecho, funcionan numerosos servicios y unidades asistenciales e investigadoras de Neuropediatría en España desde hace más de cuarenta años. Aparte de su función clínica hospitalaria, la Neurología Pediátrica juega un papel relevante en la Pediatría Social y Preventiva y en la atención a las discapacidades motóricas, sensoriales, cognitivas y neurocomportamentales en la infancia, niñez y adolescencia.

*2.1. Competencias asistenciales del neuropediatra:* El neuropediatra aplica sus conocimientos acerca del desarrollo neurológico humano y de sus modos de enfermar para realizar el seguimiento de los niños a riesgo y el diagnóstico y tratamiento médico de las patologías neurológicas durante la infancia, la niñez y a adolescencia. Por lo general ejerce en centros hospitalarios, en el seno de un departamento o servicio de Pediatría, y su formación específica le permite manejar de la forma más económica y eficaz los recursos complementarios de la tecnología diagnóstica (neurofisiología, neuroimagen, bioquímica, neuropatología etc.) y las terapéuticas adecuadas. También es esencial su trabajo en centros asistenciales ambulatorios, unidades de atención temprana, de reeducación y de educación especial. En todo caso, aparte de la tarea asistencial directa, el neuropediatra tiene un papel importante en la interconsulta y en el asesoramiento neurológicos del Servicio pediátrico en el que se encuadra y de todos los profesionales (rehabilitadores, ortopedas, neurocirujanos, psicólogos, logopedas, psicopedagogos) que convergen en procurar el bienestar de los niños y adolescentes con trastornos neurológicos y neurocognitivos. Asimismo procura una adecuada coordinación durante la etapa transicional a la edad adulta del paciente crónico, mediante el intercambio de criterios con los Servicios de Neurología y de Rehabilitación y con las Instituciones y Asociaciones ciudadanas que procuran la inserción social y ocupacional-laboral de los afectados.

*2.2. Competencias investigadoras y docentes:* El neuropediatra contribuye a la formación de los candidatos a las especialidades de Pediatría y de Neurología en los hospitales que ofrecen los correspondientes programas MIR. Interviene también en programas de formación permanente de pediatras, psicólogos, psicopedagogos y otros profesionales de las ciencias humanas y de la salud. En muchas de las Universidades españolas, el neuropediatra contribuye a la enseñanza de la temática neurológica en el programa de Pediatría de la Licenciatura en Medicina. Al mismo tiempo, trabaja en programas de investigación fisiopatológica, clínica, terapéutica y epidemiológica junto a otros investigadores de Pediatría, de Neurología y de Neurociencia básica.

*2.3. Sociales:* El neuropediatra está formado para asesorar a la Administración y a las Asociaciones Ciudadanas de afectados por enfermedades y discapacidades neurológicas de la niñez (parálisis cerebral, retraso mental, epilepsia, enfermedades neuromusculares, trastornos de atención, de comunicación y de aprendizajes etc.) para procurar la



integración óptima de los afectados y la mejora de los recursos asistenciales, educativos y ocupacionales.

### **3. *Objetivos generales de la formación:***

Durante los dos años de formación en el ACE de Neurología Pediátrica, el candidato debe complementar los conocimientos y habilidades adquiridos durante su formación previa de entre 2 a 4 años en la especialidad troncal de la que proceda, Pediatría o Neurología (ver anexo I), para desarrollar con suficiente competencia los cometidos asistenciales, investigadores, docentes y sociales del neuropediatra, señalados anteriormente.

### **4. *Objetivos específicos: habilidades prácticas***

A lo largo de su formación específica el candidato a neuropediatra debe capacitarse para obtener e interpretar la información diagnóstica y planificar los recursos terapéuticos que forman parte de su ejercicio clínico; asimismo se forma para contribuir a la organización de la asistencia neuropediátrica en su entorno, en el marco de la atención pediátrica integral, y para hacer progresar el campo de conocimientos de su disciplina mediante la investigación, con arreglo a los medios de los que disponga.

*4.1. Habilidades clínicas generales:* Obtención y redacción de la anamnesis neuropediátrica a partir del niño y/o de sus familiares. Aptitudes observacionales y habilidades exploradoras del desarrollo normal y de la semiología clínica neurológica en el niño. Encuadre sindrómico. Diagnóstico fisiopatológico y topográfico. Diagnóstico de variantes normales.

*4.2. Métodos clásicos de examen neurológico del neonato y del lactante:* Destreza en los métodos de observación y de examen neurológico neonatal e infantil. Manejo práctico las escalas para el control neuroevolutivo temprano.

*4.3. Exploración clínica de los nervios craneales y de las funciones sensoriales:* Dominio de las técnicas de valoración de la agudeza visual en lactantes y en niños con retraso intelectual y realización de perimetría visual por confrontación; examen de fondo de ojos y criterios para la petición de exámenes oftalmológicos específicos. Valoración clínica de la audición y protocolos de detección y de diagnóstico temprano de hipoacusias; criterios para la indicación e interpretación de exámenes específicos audiológicos y vestibulares. Motricidad pupilar. Motricidad ocular extrínseca; fisiopatología y semiología de la mirada. Semiología sensitiva y motora facial, signos miopáticos y miasténicos. Semiología de la deglución y de la continencia salival. Semiología de las disartrias. Signos clínicos de paresia laríngea. Sistemática exploratoria de la sensibilidad somatosensorial en el niño; síndromes de alteración propioceptiva periférica y central. Exploración en el niño de la sensibilidad táctil, dolorosa y térmica; integración fisiopatológica por troncos nerviosos periféricos, raíces y vías centrales. Valoración de trastornos tróficos de piel y faneras en patología sensitiva.



*4.4. Semiología de la motricidad:* Observación de la postura y de la motricidad espontánea, marcha, carrera, salto. Exploración del tono muscular: consistencia, extensibilidad y pasividad segmentarias. Características diferenciales de los cuadros hipotónicos según su origen y fisiopatología. Síndrome córtico-espinal, espasticidad. Distonía. Discinesias: temblor, mioclonia, corea, atetosis, flutter, tics. Reconocimiento diferencial de estereotipias motoras y de manierismos. Valoración del trofismo muscular; observación de fasciculaciones, calambres y mioquimias. Balance de fuerza muscular segmentaria: maniobras específicas, gradación, transcripción e interpretación fisiopatológica. Síndromes topográficos de raíces y de nervios periféricos. Exploración de los reflejos osteotendinosos y cutáneos, interpretación en el contexto clínico-fisiopatológico. Función cerebelosa: maniobras de exploración. Equilibrio, examen clínico de la función vestibular e interpretación de pruebas vestibulares especiales en el contexto clínico. Síndromes topográficos medulares. Escalas de valoración de cuadros parapléjicos. Escalas de funcionalidad manipulativa y locomotriz. Conocimiento práctico de la Gross Motor Function Scale y otros instrumentos de valoración de la funcionalidad motora global. Interpretación práctica de los análisis computerizados de la marcha: uso en protocolos de investigación de intervenciones terapéuticas (opcional). Valoración de la motricidad diafragmática. Interpretación de las pruebas de función respiratoria en niños con disfunción motora. Características de las parálisis y discinesias psicógenas. Síndromes de disfunción neurovegetativa: orientación clínica, indicación y valoración de los exámenes complementarios, opciones terapéuticas.

*4.5. Semiología neurocomportamental:* Organización de la anamnesis en neuropsicología del desarrollo. Uso de escalas de conducta y valoración de los cuadernos e informes escolares en la anamnesis. Sistemática de la entrevista clínica en trastornos neurocognitivos y neurocomportamentales: integración motriz fina y gruesa, dibujo espontáneo y de la figura humana; lenguaje (forma, contenido y uso); somatognosia, gnosias digitales y orientación espacial; screening de memoria episódica; concentración, estabilidad de la atención; cribado de lectura, de escritura y de cálculo en escolares. Peculiaridades de la evaluación clínica comportamental de preescolares y niños pequeños en la consulta. Diagnóstico de la deficiencia mental, elección de los tests oportunos según edad y características del sujeto. Fenotipos conductuales: reconocimiento e integración de los rasgos. Formulación de diagnóstico sindrómico neurocomportamental y elección de los tests y otras pruebas complementarias para el contraste de hipótesis diagnósticas y para la orientación de la intervención, en su caso. Habilidades de comunicación y de trabajo multidisciplinar con psiquiatras infanto-juveniles, psicólogos, neuropsicólogos, psicopedagogos, logopedas, psicomotricistas, maestros.



*4.6. Valoración del niño con enfermedad crítica neurológica:* Sistemática de valoración neurológica del coma. Graduación, escala de Glasgow adaptada a la infancia y a la niñez. Signos meníngeos. Signos de afectación focal. Signos de herniación cerebral. Trastornos respiratorios neurológicos en el paciente crítico. Identificación de crisis epilépticas en el enfermo inconsciente. Sistemática de pesquisa etiológica; dominio de claves para la sospecha de errores innatos del metabolismo en descompensación aguda. Muerte cerebral: sistemática del examen clínico neurológico y petición de las pruebas complementarias oportunas. Habilidades de cooperación en interconsulta con neonatólogos, intensivistas pediátricos y neurocirujanos.

*4.7. Dismorfología clínica:* Sistemática de observación de rasgos morfológicos anómalos, discromias cutáneas y otros datos del examen pediátrico general constituyentes de fenotipos relacionables con la patología neurológica o comportamental motivo de consulta. Conocimiento y manejo de los bancos de datos disponibles para el encuadre diagnóstico en dismorfología clínica. Habilidades de intercambio con el Servicio de Genética y Dismorfología Clínica del centro.

*4.8. Maniobras y procedimientos diagnósticos y terapéuticos especiales:*

- Punción lumbar en neonatos, lactantes y niños mayores. Terapias intratecales.
- Inyección intramuscular de toxina botulínica A en el tratamiento de espasticidad y de distonías focales.
- Valoración funcional biomecánica y habilidades de discusión y de trabajo cooperativo con cirujanos ortopedas, rehabilitadores y fisioterapeutas para las elecciones terapéuticas ante las discapacidades motrices del niño.

*4.9. Tests diagnósticos en neurología del comportamiento (neuropsicología):* Uso de escalas de desarrollo de primera infancia. Indicación, e interpretación de tests para evaluar capacidad intelectual, atención, funciones ejecutivas, memoria, habilidades praxo-gnósticas, lenguaje oral, lectura, escritura y cálculo en preescolares, escolares y adolescentes.

*4.10. Neurofisiología clínica:* Indicación fundamentos técnicos e interpretación de las siguientes técnicas diagnósticas:

- EEG standard de vigilia y de sueño en las distintas edades del desarrollo.
- Monitoreo video-EEG de epilepsias del niño. Sistemática de estudio y discusión de pacientes afectados de epilepsias de difícil control, planteamiento de posibles indicaciones quirúrgicas etc.
- Polisomnografía.
- Potenciales evocados auditivos, visuales y somato-sensoriales; potenciales evocados cognitivos, P-300. Estimulación magnética cortical.
- Electromiografía, velocidades de conducción sensitiva y motora, estímulo-detección en sistema nervioso periférico, respuestas H/M, estimulación repetitiva. Indicaciones e interpretación de resultados en niños.

*4.11. Neuroimagen:* Indicación e interpretación, al nivel avanzado exigible a un especialista clínico neurológico, de las siguientes técnicas:

- Radiología simple de cráneo y de columna vertebral.
- Ecografía transfontanelar en el neonato y el lactante: realización (opcional) e interpretación en el contexto clínico.
- Tomografía computerizada (TAC) cráneo-cerebral.
- Resonancia magnética (RM) morfológica de encéfalo, columna, médula espinal y raíces nerviosas.
- Espectrografía cerebral por RM
- Angio-resonancia cerebral y angiografía cerebral por cateterismo.
- SPECT cerebral basal y crítico; aplicación en monitoreo de epilepsias refractarias.
- PET cerebral: aplicación en neuro-oncología; estudios de flujo y de funcionalismo metabólico cerebrales; aplicación en investigación, según las posibilidades del centro.

*4.12. Bioquímica e Inmunología:* Indicación, técnicas de recogida de muestras e interpretación en el contexto clínico:



- Estudio de potencial redox.
- Aminoácidos en sangre y orina.
- Indicación y técnicas de recogida y de envío de muestras para el estudio de ácidos orgánicos en orina, enzimas lisosomiales en leucocitos o en cultivo de fibroblastos, cadenas oxidativas mitocondriales en músculo estriado, neurotransmisores en líquido cefalorraquídeo.
- Analítica básica de líquido cefalorraquídeo. Proteinograma. Bandas oligoclonales. Serologías LCR/plasma. Anticuerpos de pared vascular LCR/plasma.

*4.13. Anatomía Patológica y Hematología:* Indicación, condiciones para la toma de material de biopsia u operatorio e interpretación en el contexto clínico:

- Estudios óptico, histoenzimológico y electromicroscópico de músculo estriado.
- Estudio óptico y electromicroscópico de biopsias de nervio periférico.
- Microscopía de biopsias de piel y de muestras de apéndice para visualización de depósitos intralisosomiales. Estudio de piezas operatorias (tumores, displasias etc).
- Estudios necrópsicos: solicitud, participación en las sesiones anatomoclínicas.
- Indicación de la búsqueda de enfermedades por depósito en muestras de médula ósea.
- Extensiones de sangre y estudios de coagulación.

*4.14. Genética:*

- Indicación e interpretación del cariotipo con técnicas de bandas y de las técnicas citogenéticas con FISH; indicación de la búsqueda de microdeleciones.
- Indicación, obtención de muestras y significación de los estudios genético-moleculares.

## **5. Objetivos específicos de conocimiento:**

Se relacionan en este apartado los principales temas de la Neurología Pediátrica que candidato en formación debe llegar a conocer en profundidad. La relación no pretende ser exhaustiva sino orientar y dar proporción al estudio de los tratados sistemáticos, monografías y publicaciones periódicas bajo la guía del Tutor de la formación. Según que la procedencia del candidato sea de la Pediatría o de la Neurología, poseerá diferente fundamentación teórica en cada una de las partes del programa, lo cual influirá en la orientación del estudio personal de cada área temática.

*5.1 Recapitulación y ampliación de neurociencia básica:* Neuroanatomía, centros y vías nerviosos; estudio en paralelo con la neuroimagen normal y con la semiología clínica sistémica y topográfica. Morfogénesis del sistema nervioso. Vascularización cerebral y medular. Barrera hematoencefálica. Fisiología del líquido cefalorraquídeo y estructura de las cubiertas meníngeas. Anatomía normal y estudio por imagen de cráneo y raquis. Actividad neuronal, canales iónicos, neurotransmisores, segundos mensajeros. Fisiología de los sistemas sensoriales. Fisiología de la percepción. Fisiología del control motor. Memoria implícita y explícita: bases celulares y circuitos cerebrales del aprendizaje. Lenguaje: dimensiones y fundamentos neurológicos. Alerta, consciencia, atención y funciones ejecutivas: bases neurobiológicas. Fundamentos de neurogenética.

*5.2. Neuropatología general:* Nociones básicas de extracción, fijación, inclusión, corte y coloración de las muestras de encéfalo, nervio periférico, músculo estriado, piel, conjuntiva, apéndice. Inspección macroscópica de cortes encefálicos y medulares. Diferenciación de las coloraciones básicas. Neurohistología óptica normal. Lesiones





microscópicas elementales de las neuronas: pérdida neuronal, atrofia neuronal simple, sufrimiento neuronal isquémico, neuronofagia, cromatolisis central y periférica, fenestración y vacuolización neuronales, mineralización, inclusiones neuronales patológicas. Alteraciones axonales. Lesiones astrocitarias: gliosis y sus tipos, necrosis astrocitaria, lesiones por sobrecarga metabólica. Lesiones de los oligodendrocitos. Microglía: proliferación, macrofagia. Procesos tisulares básicos: atrofia cerebral, atrofia de grandes vías nerviosas, isquemia, hemorragia, edema cerebral, espongirosis, desmielinización, fenómenos inflamatorios, histopatología básica de tumores de sistema nervioso. Pérdida axonal, desmielinización-remielinización periférica. Características ópticas e inmunohistoquímicas de las distrofias musculares, miopatías, fibras rojo-rasgadas. Imágenes básicas de sobrecarga e inclusiones en muestras de piel, músculo, apéndice. Interpretación del informe neuropatológico en el contexto clínico y de neuroimagen.

*5.3. Desarrollo y sus alteraciones:* Desarrollo normal durante los primeros años de vida: postura y locomoción, manipulación; desarrollo cognitivo y del lenguaje; desarrollo del juego y de las habilidades sociales. Identificación de variantes normales del desarrollo. Factores de riesgo, pautas de seguimiento, signos de alarma. Retraso psicomotor: concepto, diagnóstico provisional y confirmado, información a la familia. Centros de atención temprana: estructura y modelos de intervención. Pautas de intervención directa sobre el niño y asesoramiento a la familia y a la guardería. Objetivos y logros de la atención temprana. Desarrollo cognitivo, social y lingüístico del preescolar y el escolar.

Retraso mental: concepto, grados, diagnóstico, encuesta etiológica. Asesoramiento neuropediátrico a los padres y al centro educativo. Fenotipos conductuales con retraso mental: claves para su reconocimiento, orientación del diagnóstico etiológico y de las pautas de intervención. El escolar y el adolescente con retraso mental, trastornos comportamentales y disadaptativos asociados. Orientación educativo-terapéutica y ocupacional-laboral.

Trastornos generalizados del desarrollo (trastornos del espectro autista): concepto, tipos, detección temprana, diagnóstico; modelos de intervención; estado de los conocimientos etiológicos; asesoramiento a la familia y modelos de intervención psico-educativa; criterios de uso de psicofármacos.

*5.4. Trastornos específicos del desarrollo y de los aprendizajes.* Motivos de consulta. Trastornos del habla y del lenguaje: trastornos instrumentales (hipoacusias, disartrias); trastornos específicos del lenguaje (disfasias): tipología clínica, etiopatogenia, diagnóstico, pronóstico. Trastornos adquiridos del lenguaje durante la niñez: afasias. Trastornos del aprendizaje de la lectura y de la escritura. Trastornos del aprendizaje del cálculo. Trastorno del desarrollo de la coordinación y del aprendizaje procesal (o no verbal). Trastorno por déficit de atención e hiperactividad: naturaleza, tipos, criterios de diagnóstico, posibles comorbidades, tratamiento farmacológico y psico-educativo. Déficits específicos de la memoria declarativa durante el desarrollo; síndromes amnésicos lesionales; amnesias transitorias en la niñez. Indicaciones y modelos de intervención en los trastornos específicos del desarrollo y de los aprendizajes, relación con los profesionales de la intervención; integración escolar del niño afecto.

*5.5. Neurología neonatal:* La interconsulta neurológica en Neonatología. Síndromes neurológicos neonatales. Sufrimiento asfíctico-isquémico en el neonato pretérmino y a término: valoración neurológica, pronóstico. Sepsis y meningocerebritis neonatales.



Traumatismo cerebral obstétrico. Parálisis braquial, crural y facial obstétricas. Hemorragia intracraneal. Convulsiones en el periodo neonatal: diagnóstico, tratamiento. Errores metabólicos innatos con manifestación aguda en periodo neonatal: algoritmos de sospecha clínica y de indicación de estudios complementarios, tratamiento de urgencia. Patología neuromuscular manifiesta al nacimiento. El recién nacido pretérmino y/o con bajo peso: diagnóstico de bienestar neurológico.

*5.6. Patología neuromalformativa:* Neurología fetal: diagnóstico ecográfico, posibilidades terapéuticas in utero. Disrafias: mielomeningocele, meningocele, lipomeningocele, espina bífida oculta, anclaje medular; diagnóstico morfológico y neurofuncional, pronóstico, organización del calendario terapéutico multidisciplinar. Anencefalia. Trastornos de la inducción ventral: modalidades de holoprosencefalia. Hemimegalencefalia. Displasias corticales y heterotopias neuronales. Agenesia de cuerpo calloso, formas aisladas y asociadas. Malformaciones del cerebelo, aisladas y sindrómicas. Comosomopatías, microdeleciones y patologías genético-moleculares con repercusión sobre el desarrollo mental y neurológico. Criterios para el consejo genético.

*5.7. Parálisis cerebral infantil:* Concepto y formas clínicas. Fisiopatología y etiopatogenia. Detección temprana. Diagnóstico. Déficits acompañantes: sensorial, cognitivo, de aprendizajes. Fundamento de los diferentes métodos de tratamiento rehabilitador. Complicaciones ortopédicas. Indicaciones y efectos de la toxina botulínica A y de los fármacos por vía general que modifican el tono muscular y las discinesias. Trastornos de motricidad orofaríngea. Complicaciones del tracto digestivo, reflujo gastroesofágico, estreñimiento. La información a los padres y al paciente. Inserción escolar y laboral-ocupacional.

*5.8. Epileptología:* Naturaleza, y fisiopatología de las crisis epilépticas. Clasificación internacional de las crisis. Clasificación internacional de las epilepsias y síndromes epilépticos. Epilepsias con comienzo en el periodo neonatal: encefalopatía epiléptica infantil precoz, encefalopatía mioclónica precoz; epilepsias neonatales benignas, forma familiar y esporádica. Epilepsias y síndromes epilépticos del lactante y el preescolar: síndrome de West, síndrome de espasmos periódicos sin hipsarritmia, síndrome de Dravet, síndrome de Lennox-Gastaut; crisis febriles: criterios de atipicidad, pronóstico. Epilepsias idiopáticas del escolar y el adolescente: epilepsia con ausencias, epilepsia con ausencias mioclónicas, epilepsia con crisis tónico-clónicas generalizadas, epilepsia mioclónica del adolescente; epilepsias parciales benignas: con paroxismos rolándicos, con paroxismos occipitales (formas de Panayotopoulos y de Gastaut), con paroxismos frontales, con potenciales somatosensoriales gigantes, con sintomatología afectiva. Epilepsias parciales sintomáticas (temporal, frontal, parietal, occipital); lesiones subyacentes, sistematización neuropatológica de las displasias corticales, esclerosis mesial temporal, encefalitis de Rasmussen. Epilepsia mioclono-astática. Encefalopatías mioclónicas. Tratamiento farmacológico de las epilepsias. Uso específico de las diferentes drogas, interacciones. Elección de fármaco, modalidades de instauración, pautas secuenciales, retirada de la medicación. Epilepsias fármacorresistentes: recursos terapéuticos; dieta cetógena; monitorización video-EEG de epilepsias fármacorresistentes, estudios de neuroimagen: resonancia magnética, SPECT basal y crítico; indicaciones neuroquirúrgicas en epilepsias refractarias. Crisis epilépticas sintomáticas ocasionales. Estado de mal epiléptico: fisiopatología, diagnóstico, pautas de tratamiento. Desarrollo cognitivo y social de los niños con epilepsia y aspectos educativos.



*5.9. Paroxismos no epilépticos. Cefaleas. Trastornos del sueño:* Síncope, espasmo del llanto. Discinesias paroxísticas. Cefalea aguda y crónica sintomáticas: diagnóstico diferencial. Cefalea crónica recurrente; migraña y sus modalidades, cefalea de tensión. Criterios diagnósticos, indicaciones y modalidades de tratamiento. Algas craneofaciales. Dolor neuropático: diagnóstico y tratamiento. Orientación diagnóstica, educación y tratamiento de los trastornos del sueño en el niño.

*5.10. Enfermedades neurológicas progresivas heredodegenerativas y por errores innatos del metabolismo:* Paraparesia espástica familiar, ataxia de Friedreich y otras heredoataxias. Distrofia muscular deformante y otros trastornos del movimiento hereditarios. Identificación y diagnóstico diferencial de trastornos del movimiento benignos-transitorios del niño. Errores innatos del metabolismo intermediario; aminoacidopatías, acidurias orgánicas, trastornos del ciclo de la urea, trastornos del metabolismo energético, acidosis lácticas, mitocondriopatías con expresión encefalopática y/o miopática. Trastornos de enzimas lisosomiales: neurolipidosis, mucopolisacaridosis. Trastornos del metabolismo del glucógeno: repercusión neurológica. Adrenoleucodistrofia ligada al X y otras enfermedades peroxisomiales. Trastornos de los neurotransmisores: errores metabólicos innatos con expresión en el LCR. Razonamiento inductivo para la sospecha diagnóstica, indicación de exámenes complementarios y pautas terapéuticas, con el Servicio de Nutrición o en la Unidad de Cuidados Intensivos. Criterios para el consejo genético en patología neurometabólica y heredodegenerativa.

*5.11. Patología neuromuscular:* Lactante y niño hipotónicos: orientación diagnóstica. Distrofias musculares progresivas: distrofinopatías ligadas al X, sarcoglicanopatías y otras distrofias autosómicas recesivas. Distrofias musculares congénitas. Distrofia miotónica: formas neonatal y de la niñez. Miopatías congénitas. Miastenia gravis y síndromes miasténicos en el niño, diagnóstico y tratamiento. Atrofia espinal. Polineuropatías crónicas hereditarias sensitivo-motoras y sensitivo-vegetativas. Planificación terapéutica, recursos de fisioterapia, gimnasia respiratoria, medidas de prevención de deformidades, criterios de indicación de ortesis y de cirugía ortopédica, ventilación asistida en enfermos neuromusculares. Polineuritis. Polirradiculitis y síndrome de Miller-Fisher. Polineuropatías metabólicas y tóxicas. Mononeuropatías.

*5.12. Patología neuroquirúrgica, neurooncología y neurotraumatología:* Hidrocefalias en el niño: fisiopatología, tipos, etiopatogenia, clínica, diagnóstico, indicaciones terapéuticas, complicaciones. Malformaciones vasculares cerebrales: anatomía patológica, neuroimagen, clínica, indicaciones terapéuticas. Neurooncología infantil: tumores intracraneales supratentoriales tumores infratentoriales, tumores intrarraquídeos. Diagnóstico y aspectos neuropediátricos del tratamiento y el seguimiento en procesos neurooncológicos. Complicaciones neurológicas de la quimioterapia y la radioterapia. Traumatismos craneoencefálicos; conmoción cerebral; contusión cerebral; hematoma subdural y epidural. Traumatismos vértebro-medulares. Traumatismos de nervios periféricos. Diagnóstico y manejo neurológicos del niño maltratado.

*5.13. Infecciones y patología autoinmune del sistema nervioso:* Meningitis bacterianas agudas, meningitis tuberculosa y fúngica. Meningitis virales. Encefalitis agudas directas y postinfecciosas-autoinmunes. Complicaciones neuroinfecciosas del niño



inmunodeprimido o con exposiciones quirúrgicas del sistema nervioso. Patología neurológica del niño con HIV. Malaria cerebral, neurocisticercosis y otras neuroparasitosis. Abscesos cerebrales. Tromboflebitis intracraneales. Neuritis óptica y enfermedad de Devic. Esclerosis múltiple. Esclerosis mielinoclástica difusa. Síndrome opsoclon-mioclónico. Enfermedades reumatológicas y sistema nervioso; vasculitis cerebrales y otras colagenopatías.

*5.14. Afectación neurológica en otras enfermedades plurisistémicas de la niñez:* Accidentes cerebrovasculares en el niño y el adolescente; infarto isquémico, hemorragia intracraneal: clínica, encuesta etiológica, indicación de exámenes complementarios, tratamiento. Accidentes vasculares de la médula espinal. Complicaciones neurológicas de las cardiopatías del niño. Patología neurológica en poliglobulias y drepanocitosis. Complicaciones neurológicas de las leucemias y de su tratamiento. Encefalopatía hipertensiva, complicaciones neurológicas del niño con nefropatía. Síndromes neuroendocrinológicos y complicaciones neurológicas de las endocrinopatías. Patología neurológica en carencias nutricionales, encefalopatías y neuropatías de origen tóxico.

## **6. Organización de la formación. Periodos, rotaciones.**

### *6.1 Duración de la formación específica.*

La formación en el ACE de Neurología Pediátrica implica, como mínimo, 2 años a tiempo completo en una Unidad Docente Acreditada de Neuropediatria (Anexo II), tras haber finalizado los 4 años de Especialización MIR en Pediatría o en Neurología, o la formación equivalente, en el caso de candidatos extranjeros. La SENP admite en la actualidad que el candidato pueda iniciar su formación neuropediátrica durante el 4º año de su programa MIR y completarla en un 5º año adicional. En todo caso se exige la formación de dos años completos en Neurología Pediátrica. Las Unidades Docentes en Neurología Pediátrica Acreditadas por la Sociedad Española de Neurología Pediátrica (SENP) han surgido de entre los hospitales terciarios con trayectoria asistencial e investigadora en Neuropediatria de todo el territorio español. La SENP reevalúa cada cinco años la calidad docente de dichas Unidades.

- Los periodos de formación aquí propuestos corresponden con la normativa interna de la SENP a lo largo de los últimos diez años, vigente en la actualidad.

- Cabe estudiar otras posibilidades en el futuro desarrollo de la Ley de Ordenación de las Profesiones Sanitarias, siempre que se respete el espacio necesario para la adquisición de los conocimientos y habilidades propuestos en este Programa de Neurología Pediátrica. Así, puede contemplarse una trayectoria “simétrica” que comenzase por 2 años de Pediatría o de Neurología como áreas troncales, a los que seguirían 3 ó 4 años en Neurología Pediátrica de los cuales 2 se sumarían al programa de Especialidad en Pediatría o en Neurología, para que el candidato pudiese concluir la formación de la Especialidad de 4 años en una de estas Especialidades, dependiendo del área troncal en la que inició su formación MIR, más la especificación en Neuropediatria (duración total de esta trayectoria de formación: 5-6 años, acorde con lo usual en varios países europeos y en USA).



Trayectoria actual:

MIR Pediatría: 1<sup>er</sup> año..... 2º año..... 3<sup>er</sup> año..... 4º año..... 5º post-MIR.....  
<...Neurología Pediátrica...>

MIR Neurología: 1<sup>er</sup> año..... 2º año..... 3<sup>er</sup> año..... 4º año..... 5º post-MIR.....  
<...Neurología Pediátrica...>

Algunas alternativas posibles en el futuro:

MIR Pediatría: 1<sup>er</sup> año..... 2º año..... 3<sup>er</sup> año..... 4º año..... 5º año.....  
<.....Pediatría.....> <Pediatría y Neurología Pediátr..>

MIR Neurología: 1<sup>er</sup> año..... 2º año..... 3<sup>er</sup> año..... 4º año..... 5º año.....  
<... Neurología ...> <Neurología y Neurología Pediátr>

MIR Pediatría: 1<sup>er</sup> año..... 2º año..... 3<sup>er</sup> año..... 4º año..... 5º año..... 6º año.....  
<.....Pediatría.....> <...Pediatría y Neurología Pediátrica.....>

MIR Neurología: 1<sup>er</sup> año..... 2º año..... 3<sup>er</sup> año..... 4º año..... 5º año..... 6º año.....  
<... Neurología ...> <...Neurología y Neurología Pediátrica.....>

- Es, en todo caso, aconsejable tomar en cuenta las recomendaciones del *Syllabus* propuesto por el *Training Committee* de la *European Paediatric Neurology Society-EPNS* (marzo 2003, vigente en la actualidad), aprobado por la *Confederation of European Specialists in Paediatrics-CESP* (diciembre 2002) y por la *Neurology Section of the Union of European Medical Specialists-UEMS* (marzo 2003).

Durante su periodo de formación neuropediátrica el candidato participará con dedicación plena en la actividad asistencial de la Unidad, Sección o Servicio de Neurología Pediátrica, con supervisión por los Tutores de la formación. También asistirá activamente a las sesiones clínicas, conceptuales y bibliográficas y estudiará los contenidos teóricos de neurociencia básica y clínica propuestos en el programa, bajo la asesoría de los Tutores quienes, asimismo, evaluarán de forma continuada el proceso de aprendizaje conceptual y práctico.

6.2. Organización de las rotaciones:

-Un semestre se dedicará, en el caso de los candidatos que provengan de la especialidad de Pediatría, a rotar en Neurología clínica (adultos) y en Neurofisiología. Los candidatos provenientes de la especialidad de Neurología, en cambio, realizarán una rotación semestral en Pediatría (consultas externas de Pediatría general, hospitalización, neonatología, cuidados intensivos pediátricos). Es éste un periodo ciertamente breve, pero se complementa con los demás semestres, en los que el candidato sigue trabajando en ámbitos neurológico y pediátrico a la vez.

-Durante los 3-5 semestres restantes el candidato se incorporará a las labores clínico-asistenciales de Neuropediatría en consulta externa y en hospitalización. A lo largo de dicho periodo participará también en las interconsultas con otras secciones y especialidades pediátricas y con los Servicios de Neurocirugía, de Psiquiatría Infanto-Juvenil, de Rehabilitación y de Cirugía Ortopédica. Al menos durante un cuatrimestre rotará en la consulta de neurodesarrollo temprano y se familiarizará con la metodología de diagnóstico neuropsicológico y de trabajo en equipo con los otros profesionales que intervienen en la atención temprana. Es importante destacar que, en Instituciones hospitalarias terciarias, aproximadamente la mitad de los pacientes de consulta externa presentan problemas de neurodesarrollo o de neuropsicología. En el resto de los pacientes externos más los hospitalizados el diagnóstico principal es: epilepsia y crisis no epilépticas, cefaleas, parálisis cerebral, movimientos anormales, patología neuroquirúrgica y/o neurooncológica, patología neuromuscular, neuro-metabolopatías y procesos neurodegenerativos. Al ubicarse las Unidades Docentes de Neuropediatría en hospitales terciarios, el candidato puede así conocer toda la gama de patologías neuropediátricas en proporciones razonables para obtener una formación equilibrada.

-Aprovechará todo el material de exámenes complementarios (neurofisiología, neuroimagen, bioquímica, neuropatología) durante la labor asistencial para ejercitarse en la interpretación de dichas técnicas en el contexto clínico, bajo la asesoría del Tutor y de los correspondientes Especialistas. Según las posibilidades del Hospital, realizará rotaciones trimestrales a tiempo completo o parcial por las Unidades de Neuropatología y de Neuroimagen, fundamentándose en la metodología y participando en las sesiones de interpretación de los correspondientes exámenes.

-Guardias: las que correspondan en el programa MIR, según la Especialidad de procedencia.

### ***7- Metodología formativa:***

-Participación activa, con la responsabilidad y el horario exigidos por el sistema MIR, incluso para los candidatos becarios y extranjeros, en las actividades clínicas de la Unidad de Neurología Pediátrica y de las otras Unidades y Servicios en los que realice rotaciones.

-Rotación optativa a tiempo parcial por las Unidades y Servicios específicos de tecnologías diagnósticas y de intervención, incluyendo Neuropsicología y Rehabilitación.

-Participación en las sesiones clínicas, conceptuales y bibliográficas de los Servicios o Departamentos de Pediatría y de Neurología de su Hospital y en las sesiones de cierre de informes y de revisión conceptual y bibliográfica de la Unidad de Neuropediatría.

-Estudio, supervisado por los Tutores del Programa, de los tratados actuales de neuropediatría, de monografías y de publicaciones periódicas.



-Iniciación a la metodología investigadora en las líneas de su Unidad Docente. Participación activa en, al menos, dos Reuniones Anuales de la Sociedad Española de Neurología Pediátrica.

-Adquisición de criterios éticos de actuación en el asesoramiento a los pacientes y a sus familias, en la asistencia al paciente crítico o terminal y en el consejo genético.

-Evaluación continuada de la formación del candidato a lo largo del trabajo diario clínico e instrumental y de las sesiones de tutoría del estudio.

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#### Anexo I:

**Habilidades y contenidos de neuropediatría mencionados en los programas de formación de Pediatría y de Neurología aprobados por el Ministerio de Sanidad y Consumo.** Las cifras de los encabezamientos se refieren a las respectivas entradas en los textos del BOE. Los subrayados han sido añadidos en el presente documento.

*Programa de formación en la especialidad de Pediatría (BOE 26 octubre 2006, orden SCO/3148/2006 de 9 de septiembre)*

2.- La complejidad pediátrica actual en ciertos niveles obliga a que pediatras, específicamente acreditados, lleven a cabo actuaciones especializadas formativo-asistenciales a determinadas edades y en áreas concretas de diversos aparatos o sistemas del organismo del niño y del adolescente, al empleo de procedimientos asistenciales específicos y a actuaciones singulares en el campo de la pediatría comunitaria y social.

4.- Habilidades (de neurología pediátrica):

Nivel 1.- Debe dominar de forma independiente: ...e) interpretación básica de electroencefalograma, f) interpretación de análisis clínicos, g) punción lumbar.

Nivel 2.- Conocer su interpretación, aunque no pueda realizarlas de forma independiente b) ...Técnicas de imagen: ecografía, TAC, RM.

6.- Rotaciones, 2: Rotaciones fundamentales: se cita la Neuropediatría entre ellas (no especifica tiempo).

6: En el último año el residente podrá rotar por una o más especialidades pediátricas hospitalarias (no especifica tiempo), siempre que previamente haya rotado por tres de las restantes rotaciones opcionales (psiquiatría, endocrinología etc.).

7.- Objetivos docentes (referencias a la patología neurológica del niño):

2. Estudio de la biología y patología neonatales.

11. Sistema nervioso (programa de principales patologías).

14. Patología infecciosa. Meningitis y encefalitis.

16, 17, 18: Asistencia ambulatoria al niño con minusvalía. Psicología clínica. Psiquiatría del niño y el adolescente (los trastornos de aprendizaje, TDAH, trastornos de la comunicación, espectro autista etc., son incluidos en dichos puntos). La deficiencia mental se incluye tanto en el punto 11 como en el 18.

22. Actitudes y habilidades en la asistencia del niño y el adolescente enfermos. El niño enfermo agudo. Minusvalías: deficiencia mental, parálisis cerebral.



***Programa de formación en la especialidad de Neurología (BOE 9 marzo 2007, orden SCO/528/2007 de 20 de febrero)***

2.- Definición de la especialidad y su evolución.

...desarrollo de sub-especialidades en lo que deben ser las futuras áreas de capacitación específica, de una o varias especialidades, como la neurosonología, la neuropediatría, la epileptología, la neurología del comportamiento, la neurorradiología...

6.22.- Rotaciones obligatorias (12 meses)

Neurología infantil (periodo no inferior a 2 meses)

- a) Recogida, evaluación e interpretación de los síntomas y signos en el paciente neuropediátrico.
- b) Indicación, realización e interpretación de las técnicas diagnósticas en el paciente neuropediátrico.
- c) Manejo diagnóstico y terapéutico de los pacientes neuropediátricos hospitalizados, en urgencias y en las consultas externas.

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**Anexo II:  
Unidades Docentes Acreditadas de Neurología Pediátrica en la actualidad**

Hospital Universitario Virgen de la Arrixaca	Murcia
Hospital Materno-Infantil	Las Palmas
Hospital Marqués de Valdecilla	Santander
Hospital Sant Joan de Deu	Barcelona
Clínica Universitaria de Navarra	Pamplona
Hospital Clínico Universitario	Santiago Compostela
Hospital Universitario Infantil La Paz	Madrid
Hospital Universitario San Carlos	Madrid
Hospital Universitario 12 de Octubre	Madrid
Hospital Universitario Niño Jesús	Madrid
Hospital Universitario de Cruces	Bilbao
Hospital Parc Taulí	Sabadell
Hospital Universitario La Fe	Valencia
Hospital Universit. Infantil Virgen del Rocío	Sevilla
Hospital Infantil Universitario Miguel Servet	Zaragoza
Hosp. General Universitario Gregorio Marañón	Madrid





**European Syllabus and Training Programme in**

**PAEDIATRIC RHEUMATOLOGY**

**INTRODUCTION**

This syllabus describes the knowledge, skills and attitudes necessary for attaining the title “European Paediatric Rheumatologist” as defined by the paediatric section of the European Union of Medical Specialists (UEMS). It is expected that European paediatric rheumatologists will practice their skills and apply their expertise within the framework of a specialised tertiary care unit, division, department, hospital, or outpatients department. Furthermore, such specialists will have commitment to train general paediatricians, paediatricians with an interest in paediatric rheumatology, rheumatologists and specialist paediatric rheumatologists.

In general this syllabus intends to achieve the following:

1. Harmonisation of training programmes in paediatric rheumatology between different European countries.
2. Establish clearly defined standards of knowledge and skills required to practice paediatric rheumatology at the tertiary level.
3. Foster development of a European network of competent tertiary care centres for paediatric rheumatology.
4. Improved care of children within Europe with chronic as well as acute rheumatic disorders.
5. Enhanced European contribution to international scientific progress in the field of paediatric rheumatology.



## **A SYLLABUS FOR PAEDIATRIC RHEUMATOLOGY**

### **A.1 KNOWLEDGE**

#### **A.1.A Knowledge of Paediatric Rheumatology**

- (i) Gain a thorough knowledge of the rheumatic diseases in childhood and adolescence (appendix A) including knowledge of epidemiology, aetiology, pathogenesis, pathology, differential diagnosis, clinical features, outcome measures and treatment.
- (ii) Become familiar with rheumatic diseases through the age spectrum.
- (iii) Understand the approach to rheumatological emergencies including acute arthritis, acute severe connective tissue diseases such as SLE, vasculitis, macrophage activation syndrome and paediatric emergencies presenting with musculoskeletal features such as septic arthritis, osteomyelitis, non-accidental injury, neuroblastoma, leukaemia.
- (iii) Understand inter-relation of rheumatic diseases with other body systems, with particular emphasis on developmental stage and growth.

#### **A.1.B Investigations**

- (i) Understand haematological changes, acute phase reactants and biochemical changes that may accompany rheumatic diseases in children.
- (ii) Understand immunological basis of such diseases: methodology of investigations for inflammation and autoimmunity, and the interpretation of auto-antibodies in their clinical context.
- (iii) Understand genetic basis of musculoskeletal and rheumatic diseases, and the role of molecular genetic investigations in the diagnosis of such conditions.
- (iv) Understand the role of tissue biopsy of muscle, skin and kidney. Interpretation of histological abnormalities in children with rheumatic diseases.
- (v) Understand the value and limitations of synovial fluid examination and synovial biopsy.
- (vi) Understand the place of radiological investigations including ultrasound, nuclear medicine scans, bone density, CT and MRI scans (with and without contrast) in the diagnosis of rheumatic disease in children.



- (vii) Understand the role of electromyography and nerve conduction studies in children with rheumatic disease.
- (viii) Understand the use of investigations for following the progress of disease and for assessing the extent of damage to target organs, individual joints or other structures in the locomotor system and other systems affected by rheumatic disease.

### **A.1.C      Pharmacology**

- (i) Gain a thorough knowledge of non-steroidal anti-inflammatory drugs (NSAIDs), disease modifying anti-rheumatic drugs (DMARDs), intraarticular, intravenous and oral corticosteroids, gastroprotective drugs, immunosuppressive and cytotoxic drugs, biologic agents, growth inducing drugs, treatment of osteoporosis and in particular the evidence base for their use in children.
- (ii) Be aware of the range and potential consequences of unconventional remedies and therapies given to children with rheumatic disease.
- (iii) Understand the pharmacology of the range of drugs used for control of pain in children.
- (iv) Be aware of the use and risks of sedation for painful procedures in children.
- (v) Understand the importance of clinical trials in advancing therapeutic knowledge about rheumatic diseases.
- (vi) Be aware of the benefits and risks of autologous stem cell transplantation for the treatment of chronic inflammatory diseases in children and adolescents.

### **A.1.D      Multidisciplinary Approach to the Care of Children with Musculoskeletal Disorders**

- (i) Be able to use team approach to rheumatic diseases: understand its advantages and limitations.
- (ii) Understand methods used by nurses, occupational- and physiotherapists, dieticians and social workers in the rehabilitation of children with rheumatic diseases including chronic pain.
- (iii) Be able to organize patient/parent education sessions together with the multidisciplinary team.



- (iv) Understand school, community and social consequences of these diseases.
- (v) Understand the benefits and allowances available to children with rheumatic diseases.
- (vi) Understand the importance of cooperation with other specialties in the management of paediatric rheumatic disease. This will usually occur during the course of attendance at (sub)specialist *combined outpatient clinics* or in close contact with for example pediatric orthopaedic and hand surgeons, nephrologists, dermatologists, adult rheumatologists, dentists, ophthalmologists, endocrinologists, gastroenterologists, psychiatrists and adult rheumatologists.
- (vii) Understand how to effectively involve children, adolescents, parents and the wider paediatric rheumatology team in the therapeutic decision making.

#### **A.1.E**      **Adolescence and Transitional Care**

- (i) Work with the adult rheumatologists to provide transitional care, and understand differences and similarities between adult, adolescent and child.
- (ii) Understand the physiological and psychological principles of puberty.
- (iii) Be aware of the educational, vocational and social issues in normal adolescents.
- (iv) Understand the unique nature of adolescent development and the impact of paediatric rheumatic diseases on the adolescence process.
- (v) Understand the particular problems faced by the adolescents with new onset musculoskeletal or rheumatic diseases.
- (vi) Understand the impact of puberty on the pharmacology of the spectrum of commonly used anti-rheumatic drugs.
- (vii) Have practical knowledge of the transitional care process for adolescents with musculoskeletal and rheumatic diseases.



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#### **A.1.F**      **Medical Management**

- (i) Be aware of management skills necessary for preparing a business case for initiation and expansion of a paediatric rheumatology service.
- (ii) Be aware of different approaches to day to day running of a paediatric rheumatology service.