

PID Training Programme (syllabus)

INTRODUCTION

This document describes the proposed European Training Program in Paediatric Infectious Diseases (PID). It is one of the sub-specialist training programs in tertiary care paediatrics, defined by the Paediatric Section of the European Union of Medical Specialists (Union Européenne des Médecines Spécialistes; UEMS). This training program will define the education of specialists in paediatric infectious diseases, practising their skills and expertise within the framework of a specialised tertiary care unit.

Infectious diseases remain a major cause of morbidity and mortality in children, as well as in adult patients. Infections in children differ from those in adults in etiology, epidemiology, pathogenesis, management and prevention. The emergence of new problems such as HIV / AIDS, the re-emergence of old problems such as tuberculosis and the increasing incidence of drug resistance amongst many different pathogens means that there will be an increasing need for specialists in this field. Furthermore, because of increasingly complex immunosuppressive treatments used in paediatrics generally, PID specialists need to be involved in the management of infections in immunocompromised hosts - and their training should reflect this. This training program intends to improve the level of care of children with infectious diseases and immune disorders, and to harmonise training between different European countries. This programme also gives a basic training in immunology related to the understanding of the host response in children with infectious diseases and in children with immunodeficiencies. The programme also provides an option for more in depth studies of immunodeficiency for trainees aiming to work in a tertiary care centre specialised in the care of these children. When combined with add on modules in immunology, this programme provides training for specialists in paediatric immunology.

AIMS OF TRAINING

On the basis of this training, European PID specialists should have an understanding of the scientific principles of infection, microbiology / virology and the immune response, and will be competent in providing clinical care within the framework of a specialised tertiary care unit in both the in-patient and out-patient setting. He / she will understand the routine application of specialised diagnostic and therapeutic methods. The trainee will also have an understanding of the speciality related laboratory test procedures, (including safety aspects), interpretation of the results and management aspects of their speciality. The trainee is expected to be familiar with research methodologies, teaching and presentation methods, clinical and financial management skills, audit and ethical issues pertaining to research and clinical management. He / she should also have knowledge of preventative strategies such as immunisations and prevention of outbreaks of hospital infection and communicable diseases in the society. The specialist should

also be able to conduct quality assurance and research to seek cures for new diseases. Experience in teaching should be provided during the specialist training.

TRAINING PROGRAM STRUCTURE

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. Complete training can consist of modules acquired in several different training centres. At least one of these training locations should fulfil the criteria for a primary centre.

There are two different types of modules, obligatory and desirable. Obligatory modules are those considered essential for successful training. Usually at least two optional modules will be included in the training.

OBLIGATORY 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:-

- Classification of infectious agents.
- Development of immune system - normal and abnormal.
- Function of the specific and non specific immune systems.
- Mechanisms of host resistance, notably the basis of immunological responses to microbial infections.
- Pathogenesis of infection and infectious injury, including bacterial (especially septicaemia, septic shock and toxic shock syndromes), viral (including post viral complications, e.g. encephelomyelitis), fungal, protozoal and helminthic diseases.
- Epidemiology of major infectious diseases.
- Mechanisms of host defence in infectious diseases and the immunological basis of pathogen induced damage.

- Use of antimicrobials both therapeutically and prophylactically. Interpretation of sensitivity tests (including minimum inhibitory and bacteriocidal tests). Pharmacokinetics of antimicrobials. Hospital antibiotic policy.
- Use of immunomodulating agents, immunoglobulins, cytokines, growth factors and immunosuppressive drugs including corticosteroids.
- 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

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).

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 presentations.

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.

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

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).

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).

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).

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).

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 specialities, 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: AJC / GR / European Training Document. Infectious Diseases. September 2003

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