



المجلس العربي للاختصاصات الصحية

The Arab Board of Health Specializations

دليل برنامج الأمراض المعدية لدى الأطفال

المجلس العلمي لاختصاص طب الأطفال

Pediatric Infectious Disease Program Guide

Scientific Council of Pediatrics

October 2020

شروط الاعتراف ببرنامج اختصاص

الامراض المعدية لدى الاطفال

1. تطبق الشروط العامة الواردة في دليل الاختصاصات الدقيقة في طب الاطفال كاملة.
2. بالإضافة الى الشروط العامة لا بد من توفر الشروط التالية:
 - B يجري التدريب في مستشفى أطفال تخصصي او مستشفى عام على ان تتوفر ردهات الرقود لمعظم تخصصات طب الأطفال بالإضافة الى العيادات الاستشارية ويشمل ذلك تخصصات الجهاز الهضمي وامراض القلب والامراض العصبية وامراض الكلى وامراض الدم والأورام وردهات جراحة الأطفال و العناية المركزة للأطفال و وحدة العناية بحديثي الولادة و استشارات التدرن و الانف و الاذن و الحنجرة و العيون و الجلدية.
 - Bب وجود ما لا يقل عن طبيبين استشاريين في اختصاص الامراض المعدية لدى الاطفال عدد اثنان متفرغان تفرغا كاملا للعمل في الردهات.
 - Bت ان لا يقل عدد الاسرة عن 10 أسرة لكل متدرب في كل سنة تدريبية ويحتسب سرير العناية المركزة كسريرين.
 - Bث يجب توفر المختبرات والفحوصات المخبرية الدقيقة للتشخيص مع ضرورة توفر:
 - مختبرات الاحياء المجهرية وتتضمن: مختبر الفايروسات، مختبر السيولوجي، مختبر البكتريولوجي، مختبر الباراسايتولوجي، مختبر المايكولوجي، ومختبر المايكروبيولوجي الجزيئي (Molecular Microbiology).
 - مختبر المناعة
 - مختبر الفحص النسيجي.
 - Bج يجب توفر وحدة اشعة متقدمة للتشخيص وتشمل خدمات الأشعة المقطعية والملونة والرنين المغناطيسي والسونار والدوبلر.
 - Bح يجب توفر وحدة خدمة العناية التلطيفية.
 - Bخ يجب توفر وحدة السيطرة على التلوث.
 - Bب يجب توفر وحدات العلاج النفسي و الاجتماعي الساندة و العلاج الطبيعي.
 - Bبب يجب توفر وحدة تغذية متقدمة و التغذية الوريدية غير الفموية.
 - Bر يجب توفر بيانات للحالات المرضية في المركز مع نظام ادارة البيانات والارشفة الالكترونية.
 - Bز توفر بروتوكولات استرشادية علاجية (Guidelines) متقدمة ومواكبة للتطورات العالمية.
 - Bس وجود كادر تمريض متخصص ومؤهل وكذلك توفر وحدة علاجية بإشراف صيادلة اكفاء ومؤهلين مع العقاقير الكيماوية المختلفة.
 - Bش يفضل وجود علاقات توأمة وتعاون مع المراكز العالمية والاقليمية المتخصصة.
 - Bص توفر غرف العزل.

البرنامج التدريبي

- يجب ان لا تقل مدة التدريب عن 3 سنوات مبرمجة ومتدرجة.
- يجب ان يقدم المركز برنامجاً تدريبياً مفصلاً وواضحاً يبين الأهداف لكل سنة تدريبية مع مراعاة المتطلبات الواردة في السجل التدريبي (Logbook) لاختصاص الامراض المعدية لدى الأطفال الملحق طياً.
- يجب ان يتضمن البرنامج الدوام في العيادات الاستشارية للامراض المعدية للأطفال والاذن والحجرة والتدرن و العيون و الجلدية و عيادة السفر و ردهات رقود المرضى والعناية المركزة والمرور بمختبرات الأحياء المجهرية ووحدة السيطرة على التلوث ووحدة الصحة العامة.
- يجب ان يتضمن البرنامج دورة تدريبية في مهارات البحث العلمي، تعطى خلال فترة التدريب.
- يتضمن البرنامج مناوبات لا تقل عن ست مناوبات في الشهر الواحد اداها خلال العطلة الأسبوعية.
- ينظم لكل متدرب خلال سنوات الدراسة والتدريب سجل تدريبي Logbook يحتوي على الفعاليات العلمية التي ينجزها.
- يقدم المتدرب في نهاية السنة الثالثة بحثاً في احدى مجالات الامراض المعدية قام بإجرائه خلال فترة التدريب وبإشراف أحد الأطباء الاستشاريين ويعتبر قبول البحث من قبل لجنة تشكل لهذا الغرض من ضمن متطلبات التخرج.
- يجب تقييم المتدرب في نهاية كل عام بامتحان نظري يعد في المركز التدريبي على ان تحتسب نتيجة 50% من العلامة النهائية وتكون درجة النجاح 50%، والخمسين بالمئة الاخرى تحسب للتقييم من قبل مشرف البرنامج وتجمع الدرجتين والتفصيل كالتالي:
 - أكثر من 60% ← يترفع الى السنة التالية.
 - 50% - 60% ← ينذر بالنواقص الموجودة لديه من الناحية النظرية والعملية.
 - اقل من 50% ← يفصل من البرنامج التدريبي إلا إذا كان هناك ظروف قاهرة بعلم المسؤولين وفي هذه الحالة ممكن له اعادة السنة التدريبية.
- الامتحان النهائي ويكون في نهاية السنة الثالثة:
 - الامتحان النظري: يتألف من جزئين:
 - الجزء الأول (20%) ← امتحان خيارات متعددة (single choice questions) عدد 100.
 - الجزء الثاني (20%) ← 20 حالة سريرية باستخدام الكمبيوتر مع إعطاء الوقت اللازم لتغطية معظم فقرات التخصص الدقيق.
 - الامتحان العملي: يتألف من ثلاث مراحل:
 - المرحلة الأولى (25%) ← حالة طويلة مع المناقشة (Long Case Discussion)
 - المرحلة الثانية (20%) ← محطات اوسكي عدد خمسة.
 - المرحلة الثالثة (15%) ← الشرائح (Slides) عدد 15 عبارة عن اشعة او تحاليل مختبرية او صور.
- للنجاح في الامتحان النهائي يتوجب الحصول على درجة لا تقل عن 60% في كل من مكونيه النظري والعملي وان من يحصل على درجة اقل من 60% في أي من هذين المكونين يعد راسباً.

يجب ان يتضمن البرنامج التدريبي

1. التقرير الصباحي (Morning Report) ← يومي.
2. الاجتماع السريري (Clinical case conference) ← مرة اسبوعياً
3. الجولة السريرية الكبرى (Grand Round) ← مرة اسبوعياً

4. تقديم حالات سريرة معقدة مع المراجعات (Case presentation with literature review) ← مرتين شهرياً.
5. نادي المجلة الطبية (Journal Club) ← مرتين في الشهر.
6. الاجتماع المشترك للأمراض المعدية ومختبر الأحياء المجهرية (Combined ID and Microbiology rounds) ← مرة في الشهر.
7. تقرير المراضة والوفيات (Morbidity and Mortality) ← مرة في الشهر.
8. اجتماع اقسام الاشعة (Radiology Meeting) ← مرة في الشهر.
9. دورة الإنعاش الأساسية (BLS) و دورة إنعاش الأطفال المتقدمة (APLS) ← دورة واحدة على الأقل لكل منهما خلال فترة التدريب.

مدير البرنامج:

يجب أن يكون طبيباً ذو مؤهلات عالية في طب الأطفال و الأمراض المعدية لدى الأطفال مع خبرة لا تقل عن 5 سنوات في مجال التخصص الدقيق ولديه عدد من الأبحاث العلمية المنشورة في مجلات موثقة وان يكون قادراً على اعطاء الوقت الكافي لإدارة البرنامج والاشراف عليه لضمان تطبيقه بشكل عالي المستوى.

مهام مدير البرنامج:

1. الاشراف ومتابعة سير البرنامج التدريبي.
2. اعداد الجدول العام للدورات التدريبية للمتدربين.
3. حل العوائق و المشاكل التي تصادف سير التدريب.
4. نصح و ارشاد المتدربين و خاصة المتعثر منهم.
5. البحث في اسباب ضعف الدورة التدريبية متى قدمت اليه من قبل المتدربين.
6. تسخير الامكانيات المطلوبة لسير التدريب بالتنسيق مع ادارة مركز التدريب.
7. ايجاد البيئة التدريبية الملائمة للوصول الى افضل النتائج.
8. التأكيد على استمرارية الجلسات التعليمية المقررة.
9. جمع و دراسة التقييم المستمر للمتدربين و ارشفتها.
10. يكون همزة الوصل بين مركز التدريب والبرنامج التدريبي والمجلس العربي للتخصصات الصحية.
11. مراجعة البرنامج وادائه من اجل تحسين وتطوير البرنامج واهدافه.
12. ضمان ان تكون انظمة المركز التدريبي تتماشى مع المركز واهدافه.

طريقة التعيين:

على المركز التدريبي ترشيح من يراه مناسباً حسب الانظمة المقررة وارسال سيرته الذاتية الى لجنة التوصيف والتدريب التابعة للمجلس العربي للاختصاصات الصحية – قسم الاطفال.

Program Curriculum

Pediatric Infectious Disease Fellowship Training Program

Pediatric Department

Program Components

Program consist of three years of training which include rotations in Pediatric Infectious Disease (PID) consult service, microbiology rotations and other laboratory related to infectious Disease; e.g. virology, mycobacteriology, and TB laboratory. In addition; rotations in adult ID, Infection Prevention and Control, Research is an important component of the program. Finally; electives that will benefit the program; e.g. Immunology and Public Health (Community Medicine).

1. Specific Program Content

a. Medical Knowledge

PID fellows have clinical experiences or formal instruction (e.g., didactic course, clinical and research conferences) in the prevention, evaluation, and management of the following disorders:

1. The febrile child; specifically presenting in association with rash or as fever of unknown origin
2. respiratory tract infections
3. Urinary tract infections
4. Peritonitis and other intra-abdominal infections
5. Cardiovascular infections
6. Central nervous system infections
7. Skin and soft tissue infections
8. Infections related to trauma, including burns and animal and human bites
9. Gastrointestinal infections and food poisoning
10. Bone and joint infections
11. Sexually transmitted diseases
12. Infections of the eye
13. Viral hepatitis
14. Nosocomial infections
15. HIV infection and acquired immunodeficiency syndrome
16. Infections in the immunocompromised hosts
17. Infections in travelers
18. Infections in neonates
19. Congenital Infections

b. Technical and Other Skills

The Pediatric ID training program provides practical experience or instruction in the cognitive aspects of the following:

1. Mechanisms of action and adverse reactions of antimicrobial agents; the appropriate use and management of antimicrobial agents in a variety of clinical settings.
2. The utility of procedures for specimen collection relevant to Infectious disease.
3. The utility of diagnostics tests including traditional microbiologic tests as well as molecular diagnostic tests.
4. Principles and practice of hospital infection control and healthcare epidemiology.
5. Principles of chemoprophylaxis and immune-prophylaxis to enhance resistance.
6. Mechanisms of action of biological products, including monoclonal antibodies, cytokines, interferons, interleukins, and colony-stimulating factors, and their applications in the treatments of infectious diseases or their role in enhancing the immune response.
7. Interpretation of Gram's stains, other special stains, blood culture methodology, methods of determining susceptibility testing, and basic principles of molecular biology

c. Additional Formal Instruction

Additional specific content areas that are included in the formal training program (through the didactic course, clinical and research conferences, and seminars, elective rotation in Pediatric Immunology) include:

1. The factors that determine the outcome between host and parasite, including microbial virulence factors and host defense mechanisms.
2. Basic concepts of immunology.
3. The epidemiology, clinical course, manifestations, diagnosis, treatment, and prevention of major infectious agents including viruses, chlamydia, mycoplasma and ureaplasma, rickettsioses, and bacteria including spirochetes and mycobacteria, mycoses, protozoa, and helminths.
4. Bioterrorism and emerging infectious diseases
5. Health outcomes, quality assurance and improvement and cost containment in the clinical practice of infectious diseases.
6. Critical assessment of the medical literature, medical informatics, clinical epidemiology and biostatistics and research methodology
7. Hospital epidemiology and infection control.

2. Conferences, Educational Programs and Teaching Experiences

The Division of Pediatric Infectious Diseases holds several conferences; these

Include:

Clinical Case Conference:

In weekly clinical conference, fellows as well as the rotating resident present all the clinical cases followed by Pediatric ID team, it is a great opportunity for scientific discussion between faculty members and the trainee

Pediatric Infectious Diseases Seminar

This conference is once every week; it could be a case presentation with literature review, core curriculum, or journal club.

Combined ID and Microbiology Rounds

all faculty and trainees from PID, and Microbiology attend these interactive meetings where one of the faculty or the trainee present a topic.

Department of Pediatric Grand round

Department of Pediatric Grand Rounds is held weekly. All divisions of Pediatric Department are represented with presentations encompassing the latest in basic and clinical sciences. Fellow attendance is required.

In addition; the PID fellow is expected to attend the **General Pediatric morning report**, in order to be aware of the overnight admissions.

Additional Conferences

Support is provided for trainees to attend a scientific meeting (typically ID week, ESPID, ECCMID, WSPID during their fellowship and is supported financially when feasible, especially for those who are making presentations.

3. Research Activities

- Research activities are a critical component of the PID training program.
- All trainees participate in a major clinical, epidemiologic, and/or laboratory Research project during their fellowship. After beginning the program, all fellows will identify a faculty mentor under whose guidance they will carry out their research project.
- Fellows are expected to generate one or more publications as a result of their research activities

4. Evaluation of Infectious Disease Fellows

Infectious Disease fellows are evaluated using multiple different tools and techniques. These include:

- a. Formative written assessments of performance on consult rotations (annual accumulative evaluations)
- b. Annual Infectious Disease examination
- c. Journal Club and Clinical case conference Evaluation.
- d. Clinical Case Conference presentation evaluations
- e. End of ID Training Program.

General Principles of the Pediatric ID Training Program including Position Descriptions

1st Year Fellows

The 1st year Fellow in Pediatric Infectious Diseases spends approximately 9 blocks on the General Pediatric ID Consult service sand 1 block rotation in the clinical microbiology laboratory.

Description of services in year 1:

- On the clinical rotations, the 1st year Fellow participates in the care of patients with a wide variety of infectious diseases. While on the clinical rotation, the 1st year Fellow also has a major role in the supervision and teaching of student and residents.
- On all rotations, there is a faculty attending who oversees the 1st year Fellow and is ultimately responsible for patient care.
- The 1st year Fellow maintains a ½ day per week outpatient PID clinic.
- The 1st year Fellow has formal teaching responsibilities in addition to the informal teaching done on clinical rotations. Over the course of the year, the resident will conduct case presentations and discussions and Journal Clubs. The resident will also participate in other teaching activities as directed.
- By the end of the 1st year of fellowship, the subspecialty resident will pick a faculty mentor and begin one or more research projects.

2nd year Fellow

The 2nd year Fellow should lead clinical rounds and should take a prominent teaching role with the attending physician present for oversight.

- The 2nd year Fellow should provide supervision and feedback to the residents and students with the attending playing the role of mentor to the 2nd year Fellow.
- The fellow maintains his or her outpatient clinic through the year (1/2 day per week).
- In addition to the clinical and teaching responsibilities listed for the 1st year Fellow, the 2nd year Fellow will present his/her research work-in-progress at ID Research Seminar.

3rd Year Fellow

The third year of fellowship training is a continuation of the clinical and laboratory rotations.

Third year fellows will also participate in teaching conferences such as the clinical case conference, journal club, Grand Rounds.

- The third year Fellow continue their outpatient clinic through the year (1/2 day per week) and may also attend additional subspecialty clinics.
- In addition to the resident's major research project, the resident is expected to be involved in one or more small focused projects and or case reports.

Clinical Experiences

A. Inpatient Rotations

1. Pediatric ID Consult Service

PID Fellows rotate on the Pediatric ID Consult service on average 9 blocks in the first year, 8 blocks in the second & 7 blocks in the third year.

Location:

- The patient mix includes the entire spectrum of Pediatric patients including those in the intensive care unit (neurology, cardiothoracic, surgical, and medical), those who are immunocompromised (including HIV-infected patients and those taking immunosuppressive medications) and those with post-surgical complications.
- Teaching takes place at daily attending rounds.
- The fellows are expected to attend all the required divisional conferences
- The team typically includes a rotating resident. All care is supervised by the attending physician assigned to the Pediatric ID consult service.

Rotational Goals:

- 1) The PID fellow will evaluate patients with acute and chronic infectious diseases across the entire spectrum of the specialty.
- 2) The PID fellow will learn the diagnostic and therapeutic approach to these patients.
- 3) The fellow will learn to communicate recommendations with other health care providers in both written and oral form.
- 4) The PID fellow will learn to facilitate the provision of care within the health care system and will learn to recognize system problems and methods to improve health care delivery.

2. Clinical Microbiology Rotation

Location:

The training experience in clinical microbiology is a 3-block/ 3 years rotation that takes place in the clinical microbiology laboratory.

During this time PID fellows participate in structured rotations at the different benches in the clinical microbiology laboratory. PID fellows are expected to participate in daily microbiology laboratory rounds with the laboratory directors and fellows. Current problems, unusual findings, instructive examples are the basis for discussion of at laboratory rounds

PID Fellow While he/she on the Microbiology laboratory rotation fellows will continue to have outpatient clinic responsibilities in longitudinal care; TB, and General ID clinic. They will attend all conferences and are expected to read and be prepared to discuss key literature.

Rotational Goals:

The PID fellow will develop a better understanding of how the clinical microbiology laboratory operates and how to use it effectively to establish a specific etiological diagnosis.

3. Infection Control Rotation

Location:

PID Fellows are expected to attend infection control and antimicrobial stewardship committee meetings, attend didactic sessions on basic principles of infection control and prevention, participate in the SHEA (Society for Healthcare Epidemiology of America) course (either on line or in person) and participate in a quality improvement project. This rotation does not have direct patient care responsibilities.

Rotational Goals:

1. The PID fellow will learn the principles of hospital epidemiology and infection control and be able to apply them appropriately to patients under their care
2. The PID fellow will understand antimicrobial stewardship, approaches to changing practice and the consequences of ineffective stewardship.
3. The PID fellow will understand the roles and responsibilities of the infection control team and the role of the hospital epidemiologist in management of the effort.

4. Infectious Disease Rotation (Adult ID):

Location:

PID Fellows rotate on the Adult ID Consult service in two blocks. The patient mix includes the entire spectrum of Adult patients including those in the intensive care unit (neurology, cardiothoracic, surgical, medical), those who are immunosuppressive medications) and those with post –surgical complications. Teaching takes place at daily attending rounds. The PID fellows are expected to attend all the required divisional conferences and clinical microbiology rounds held daily in the microbiology laboratory. They will continue to rotate in their Pediatric Infectious Disease clinics while on this rotation.

Rotational Goals

1. The PID fellow will evaluate patients with acute and chronic infectious diseases across the entire spectrum of the specialty.
2. The PID fellow will learn the diagnostic and therapeutic approach to these patients.
3. The PID fellow will learn to communicate recommendations with other health care providers in both written and oral form.
4. The PID fellow will learn to facilitate the provision of care within the health care system and will learn to recognize system problems and methods to improve health care delivery.

5. Transplant ID service

Location:

The patient mix includes patient's status post solid organ transplantation, patients listed for consideration for solid organ transplantation, and patients undergoing stem cell transplantation.

The PID fellow is expected to attend all the required divisional conferences and to attend daily microbiology rounds as often as possible.

Rotational Goals

The PID fellow will gain experience in the evaluation and management of the transplant recipient and donors, and neutropenic patient. The fellow will be aware of new controversies in the diagnosis and management of opportunistic infections and how immunomodulating medications affect risk of individual infections.

6. Immunology Rotation

Location:

The patient mix includes patients with primary and secondary immune deficiency diseases.

The PID fellow is expected to attend all the required divisional conferences.

Rotational Goals

The PID fellow will learn to characterize primary and secondary immune deficiency diseases based on humoral, molecular and cellular or functional tests. The fellow will become familiar with the importance of proficiency testing and standardization as they relate to serology and analysis of individual tests. The fellow will be aware of new controversies in the diagnosis and management of opportunistic infections and how immunomodulating medications affect risk of individual infections.

7. Community Medicine

Location:

The second year PID fellow will spend 1 block in Public Health department of Ministry of Health or any equivalent organization.

The rotation focuses on communicable disease of public health importance, exploring their important epidemiologic features, emphasizing the various recommendations for controlling these diseases, surveillance, emergence of new diseases and outbreak investigation. This rotation does not have direct patient care responsibilities.

Rotational Goals

The PID fellow will gain experience in demonstrate the ability in practicing the principles of disease control at individual, family and community levels.

B. Outpatient Clinics

1. Pediatric Infectious Disease Clinic

All Pediatric Infectious Disease fellows participate in outpatient clinic experience. The Pediatric Infectious Disease fellows are assigned a faculty mentor who is located on site at the clinic and provides direct supervision. The clinic experience includes the evaluation and care of patients with a variety of infectious disease issues.

Rotational Goals

1. The PID fellow will learn to evaluate and treat outpatients in all aspects of their care.
2. The PID fellow will understand the health care system and be able to facilitate the provision of outpatient care.
3. The PID fellow will work with home health agencies to provide optimal care for those patients on outpatient parenteral therapy.

2. Travel Clinic

The Travel and Tropical Medicine Clinic gives pre-travel advice and provides post-travel care for all types of travelers returning with any type of illnesses. The Travel and Tropical Medicine Clinic offers the infectious diseases fellow an opportunity to see a spectrum of diseases not encountered in their consultative rotations. The fellows attend Travel clinic approximately three half-days/year.

3. Tuberculosis Clinic

The Tuberculosis Clinic offers the infectious disease fellow the opportunity to observe the evaluation and management of patients with latent TB infection and active TB infection.

Research Experiences

ID Fellows at the Pediatric Infectious Disease Fellowship Training Program complete the bulk of their clinical rotations in the first year and have protected time for research during the second year. The fellows are expected to identify a mentor and develop a research proposal during their first year.

Rotation Goals:

1. The ID fellow will learn how to develop a hypothesis from a thorough understanding of existing data, develop specific aims to test that hypothesis, understand study design and develop an appropriate protocol to accomplish the specific aims, analyze the data or work with a biostatistician to do so, and develop a manuscript to communicate research findings.
2. The ID fellow will learn varying techniques whether in the laboratory, clinical research or public health arena to add sophistication or new directions to a project.

Bibliography

Reference Textbooks:

1. Feigin and Cherry ,Textbook of Pediatric Infectious Diseases
2. Mandell, Douglas and Bennett's Principles and Practice of Infectious Disease
3. Cohen and Powderly's Infectious Diseases
4. Guerrant, Walker and Weller's Tropical Infectious Diseases
5. Dolin, Masur and Saag's AIDS Therapy
6. Fisher Boyce Moffet's Pediatric Infectious Diseases , a problem-oriented approach
7. Baily and Scott's Diagnostic Microbiology.
8. Mohan Manuselis Textbook of Diagnostic Microbiology

Journals (suggested for regular reading):

- Pediatric Infectious Disease Journal
- Clinical Infectious Diseases
- Journal of Infectious Diseases
- New England Journal of Medicine
- Lancet ID