

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

*The Arab League
Council of Arab Health Ministers
The Arab Board of Health Specializations
General Secretariate*

جامعة الدول العربية
مجلس وزراء الصحة العرب
المجلس العربي للاختصاصات الصحية
الأمانة العامة



Scientific Council of Internal Medicine

Guide book of

Nephrology

GENERAL OBJECTIVE:

A program for post-graduate training in nephrology in the Arab countries is needed to match the rapid expansion in this field of medicine and to contribute to the provision of qualified physicians who can care for increasing number of patients with renal disease and adequately maintain in a high standard service in the many specialized units now available in the Arab countries and build the basis of future expansion in this field.

1. The Nephrology section staff have to be committed to the educational program outlined in this document. The training program is not meant primarily to meet service commitments but rather to develop a comprehensive program in which physicians can become competent in the field of Nephrology. Therefore, the goal of the Nephrology Postgraduate training Program is to provide the internalist (defined as a physician after completing formal training in internal medicine) with a superior intellectual environment within which to acquire the knowledge, skills, clinical judgment and attitude essential to the practice of nephrology.
2. Prerequisite for the institution providing a nephrology postgraduate training (not necessary that all the services are available in one hospital, this can be shared with other institutions within the reach of one city)

2-1. Availability of the following services:

- 2-1-1. Renal histopathology
- 2-1-2. Urology services
- 2-1-3. Clinical laboratory service
- 2-1-4. Transplant surgery
- 2-1-5. Radiology
- 2-1-6. Vascular Surgery

2-2. Additionally, an access to a full equipped library with the essential needed basic textbooks for internal medicine and nephrology as well as an access to recent publication in nephrology related subjects

2-3. A modern HD unit with at least 30 patients

2-4. Access to renal transplantation within the same city

2-5. Availability of PD

2-6. Availability of equipment to perform renal biopsy, all kind of vascular access catheter for hemodialysis/peritoneal dialysis, renal angiography. The above prerequisites are important to develop the **needed skills and confidence** for the postgraduate training program to succeed

2-7. Academic and research commitment of the institution

3. PROGRAM DETAILS

3-1. The Postgraduate Training Program Director:

The Nephrology Postgraduate Training Program is directed by a physician high qualified in Internal Medicine and Nephrology. In addition, the Postgraduate Training Program Director should have an academic background that includes experience with residents and trainees in a Nephrology Postgraduate Training Program.

The Postgraduate Training Program Director should have a minimum of five years of relevant post-training experience which includes experience in research and a record of publications. The Program director has to be full time faculty member preferably; he must devote sufficient time to provide leadership and supervision to the program. The program director will monitor the program contents and ensure the high quality of the program.

3-2. Other Nephrology Staff Members:

In addition to the Postgraduate Training Program Director, there should be at least one full time Nephrologist ,or tow other part time Nephrologists who are in both Internal Medicine and Nephrology. In addition, they should have previous background and experience in supervising and instructing residents and trainees in a postgraduate training program.

3-3. Application procedure:

3-3-1. Documentation:

3-3-1-1. Application form (available from the postgraduate/Academic Affairs Department / or from the website of the Arab Board of Health specializations www.arab-board.org).

3-3-1-2. Certificate of completing 4 years of Internal Medicine training by the start date of the Nephrology postgraduate training is needed.

Passing the final examination in Internal Medicine is mandatory before sitting for the subspecialty exam of Nephrology.

- 3-3-1-3. A minimum of two letters of recommendation from faculty members or consultant who have worked with the applicant, and who are familiar with his or her background confirming the suitability of the candidate for training in Nephrology.
- 3-3-1-4. A letter of consent to join the program as full time trainee.
- 3-3-1-5. An Admission Evaluation which includes a Personal Interview, its aim is to assess the applicant in general and to explore his or her professional aspirations and attitudes. This may include a written evaluation.
- 3-3-1-6. An undertaking to abide by the rules and regulations of the training program of the Arab Board of Nephrology.

3-4. Program Outline:

- 3-4-1. Duration – two years
- 3-4-2. Training is a full-time commitment and the trainee shall be enrolled in continuous full-time training for the whole period of training.
- 3-4-3. Training will be conducted in institutions accredited by Arab Board of Health Specializations
- 3-4-4. program objectives:
 - 3.4.4.1. Outpatient clinics
 - 3.4.4.2. Inpatient consultations
 - 3.4.4.3. Nephrology inpatients
 - 3.4.4.4. Nephrology procedures
 - 3.4.4.5. Nephrology "on-call"
 - 3.4.4.6. Nephrology case and topic presentations
 - 3.4.4.7. Nephrology journal club
 - 3.4.4.8. Nephrology meetings
 - 3.4.4.9. Self directed study
 - 3.4.4.10. Research project
 - 3.4.4.11. Electives
 - 3.4.4.12. Department of Medicine and Hospitals Educational activities
- 3-4-5. Trainee Evaluation :
 - Daily, by contact with consultants
 - Every 3/6 months, by written and discussed evaluation form
 - After one year , an evaluation will be done by the local training program

3.5. Relationship to the Department of Medicine and Department of Medical Education.

The trainee will abide by the rules and regulations of the Department of Medical Education/Academic Affairs. The Postgraduate Training Program Director will periodically inform the Chairman of the Department of Medical Education/Academic Affairs via the chairman of the Department of Medicine of the trainee's progress. If disciplinary measures arise, they will be discussed with the hospital's committee on Medical Education. Recommendations for educational and business leaves will be approved by the Department of Medical Education/Academic Affairs after approval by the Nephrology Section and the Department of Medicine.

4. PROGRAMME OBJECTIVES

4.1. The Nephrology Postgraduate Training Program is specifically designed to meet the practical and educational needs to produce a competent Nephrologist.

4.1.1. Clinical Nephrology

The fellow is expected to gain experience in a wide variety of renal disease. The specific entities are detailed below: Every 8 months, a questionnaire will be sent out to the fellows to gauge the depth of exposure and to see if extra steps could be dealt with areas that are deficient.

- 1- Glomerular diseases
- 2- Diabetes mellitus and diabetic nephropathy
- 3- Hypertension
- 4- Acute renal failure and intensive care unit nephrology
- 5- Chronic renal failure
- 6- Acid-base disorders
- 7- Fluid and electrolyte disorders
- 8- Cystic and inherited diseases of the kidney
- 9- Tubulointerstitial disease and urinary tract infection
- 10- Disorders of divalent cation and mineral metabolism
- 11- Transplantation
- 12- Renal disease in pregnancy
- 13- Renal function testing
- 14- Pharmacology of drugs in renal disease
- 15- Professionalism and ethical conduct
- 16- Research design, methods and responsible conduct

4.1.2. Hemodialysis (HD) /Acute Acute and Chronic

4.1.3. Peritoneal dialysis (PD)

4.1.4. Renal Transplantation (preparation for/and follow up of patients)

4.1.5. Diagnostic Nephrology (pathology and radiology)

4.1.6. Research project

4.2. The following are the knowledge and skills which the trainee is expected to acquire during his or her two years of training.

4.2.1. Anatomic knowledge of the normal and abnormal structure of the kidney, ureters, and renal vessels as well as the normal ultrastructure of the glomerulus and tubules as related to their specific functions.

4.2.2. Biochemistry – the action of hormones on the kidney, the regulation of the renal ammonia excretion, the biochemical basis of diuretic drug action, and the hydrogen-ion metabolism.

4.2.3. Physiology – the renal regulation of sodium, water, potassium, calcium, magnesium, phosphate and uric acid.

4.2.4. Pharmacology – the filtration and secretion of drugs, the action of various agents such as diuretics on kidney, the effects of urine flow and urine pH on the excretion of commonly used drugs, and the principle of nonionic diffusion.

4.2.5. Immunology and microbiology – the immunological mechanisms of renal disease, transplantation immunology, the use of immunosuppressive agents, and the infections which complicate renal disease and the immunosuppressed.

4.2.6. Genetics – the mode of inheritance of various renal disease, and tissue typing and matching.

4.2.7. Statistics – understanding the proper analysis of clinical and laboratory data, and the computation of deficits or excesses of various ions and water.

4.2.8. Ethics and law – legal and ethical aspects of organ donation, the definition of death, and compliance with Hospital policies.

4.2.9. Sociology and psychology – the understanding of the adjustments of patients with renal disease as well as that of their families and of the staff and medical personnel caring for them.

5. TRAINEE ACTIVITIES

The Nephrology Postgraduate Training Program provides a structure within which trainees can develop clinical competence in the overall field of Nephrology. Its content is divided into basic sciences, clinical sciences and research.

5.1. Outpatients Clinics :

The Nephrology trainee will spend two afternoons per week in the Nephrology outpatient clinics where, under the supervision of the Nephrology consultants, he will see patients in consultations and follow up. Through experience, discussion and reading he will learn to diagnose and treat the majority common nephrology problems. When his level of knowledge and experience warrants he will assist in the supervision and teaching of junior house staff rotating through the Nephrology clinics.

5.2. Inpatients Consultations :

If consultations are requested for opinion or procedure, all patients will be seen by a Nephrology trainee who will review the patient's history, physical examination and investigations. He will then write a consultation note following which he will present the patient to the Nephrology consultant on call. The patient may be seen first by a member of the junior house staff doing a nephrology rotation, but the patient's history, physical and investigations must be reviewed and discussed with the nephrology trainee prior to being presented to the consultant by the junior. The patients will be followed daily while in hospital, and if necessary seen in follow up as an outpatient.

5.3. nephrology Inpatients :

Patients with nephrological problems who are admitted from the clinics or emergency department by one of the nephrologists will be looked after by the nephrology trainee under the supervision of the consultant.

5.4. Hemodialysis :

- 5.4.1. Participation in the multidisciplinary approach (nephrologists, dietitian, social worker, vascular/transplant surgeon, nurses) to develop and perform educational programs to the patient with chronic renal disease before reaching the ESRD status. This is needed to train the nephrology trainee to prepare patients for life long decision for renal replacement therapy.
- 5.4.2. to learn and discuss with patients under supervision by the consultant choices available for patient with ESRD including HD, PD, pre-emptive transplantation or in certain cases the option of no treatment.
- 5.4.3. to acquire knowledge in dieting approach of delaying the need for hemodialysis and maintaining the good health of patient on HD through adequate diet intake.
- 5.4.4. to learn to decide when to start HD/Pd and to initiate treatment avoiding complications.
- 5.4.5. to learn how to prescribe acute/chronic HD/PD regime according to the clinical situations.

- 5.4.6. to keep updated with technological advances in treatment ESR patients.
- 5.4.7. to learn how to treat complications of renal failure such as anemia, renal osteopathy and hypertension.
- 5.4.8. to learn to manage dialysis service as cost-effectively as possible while maintaining good patients' quality of life and positive outcome.
- 5.4.9. to learn the different approaches to monitor the adequacy of dialysis.

5.5. Renal Transplantation :

Renal transplantation is major part of Nephrology practice. By the end of his training, the Nephrology trainee is expected to have thorough and complete knowledge in transplant immunology, indications and contraindications for transplantations, pre transplant work up and evaluation of both the recipients and donors, post transplant management, recognition or rejection episodes, and how to treat it. In addition to complete understanding of different immunosuppressive drugs used in transplantation, side effects, and mode of actions.

5.6. Hypertension

Hypertension is an integral part of Nephrology training. The trainee should know all aspects of Diagnosis, Treatment, both primary and secondary types.

5.7. Nephrology Procedures :

- 5.7.1. Native kidney biopsy (≥ 20 procedures)
- 5.7.2. Transplanted kidneys biopsy (≥ 10 procedures)
- 5.7.3. Insertion of catheters for hemodialysis (≥ 20)
- 5.7.4. Insertion of peritoneal catheters for acute peritoneal dialysis (optional)
- 5.7.5. microscopic examination of urine (≥ 100) (once weekly at least)
- 5.7.6. Mastering the hemodialysis technique
- 5.7.7. Familiarity with tissue typing, mixed lymphocyte culture, and immunosuppression for transplants
- 5.7.8. Treatment of drug overdose
- 5.7.9. The Nephrology trainee should be given responsibilities to supervise activities within the hemodialysis unit and transplant unit to gain experience in administrative issues related to his future duties as a Nephrologist
- 5.7.10. Familiarity with vascular access Techniques (A-v F.jtulu (????) , Graft)

5.7.10. We expect the nephrology trainee to participate actively in the education projects for medical community (outreach program) and in the general public education on matters related to organ donation and subjects related to renal failure and its prevention.

5.8. Nephrology "On-Call"

During the postgraduate training period, the Nephrology trainee will be on call with a consultant as required by the staff. Night call may be taken from home. If necessary, the trainee will return to the hospital to see a patient. He will then contact the consultant on call with him to manage the case. On call is an essential component of developing the intellectual and skills of "emergency" Nephrology.

5.9. Presentation of Nephrology Cases or Topics :

The Nephrology trainee will present cases or topic in one of the following venues.

Nephrology seminars, beside rounds, medical grand rounds or the city Nephrology and transplantation Club.

5.10. Nephrology Journal Club :

Once a month the Nephrology trainee, the house staff doing the Nephrology rotations, and the Nephrology consultants will meet to discuss articles of interest from the recent medical Nephrological literature. The Nephrology trainee will provide copies of one or two articles to those attending a week earlier.

5.11. Nephrology Meetings

The Trainee will attend the following Nephrology meetings :

- 5.11.1. The Nephrology, Transplant Club / once monthly.
- 5.11.2. One meeting of his choice per year locally.
- 5.11.3. One international meeting of his choice during his postgraduate training.

5.12. Self Directed Study :

The acquisition and consolidation of nephrological as well as relevant general medical and related surgical knowledge will require the reading of at least the following :

- 5.12.1. A current, standard textbook of Medicine

- 5.12.2. A current, standard textbook of Nephrology
- 5.12.3. A current, standard textbook of Pathology
- 5.12.4. A current, standard book of Renal Transplantation
- 5.12.5. The library holdings of current issues of nephrology and renal transplantation journals, Kidney international, American journal of Kidney Disease, Clinical Nephrology Transplantations and transplant Proceedings etc.
- 5.12.6. The table of contents and selected articles from the library's holding of recent issues of general medical and pertinent surgical journals
- 5.12.7. Articles from literature searches performed for the purpose of patient care, educational rounds, or research topics
- 5.12.8. Acquired knowledge and experiences in medical informatics guided presentations and statistical programs (Including Internal)

5.13. Research Project :

During the postgraduate training period, the trainee will be expected to :

- 5.13.1. Conduct at least one retrospective chart review, and submit the findings for publication.
- 5.13.2. Submit at least one case report for publication.
- 5.13.3. The Nephrology trainee is expected to design and conduct at least one Nephrology research project of relevance to health care in the Arab countries in an area of personal interest to the Nephrology trainee. (Optional)

5.14. Electives :

Electives will be granted under the following circumstances :

- 5.14.1. The Nephrology trainees' performance has been satisfactory in all respects.
- 5.14.2. The department in which the elective will be taken :
 - 5.14.2.1. Submits written approval
 - 5.14.2.2. Submits written list of objectives and instructional activities for the trainees.
 - 5.14.2.3. Agrees to complete a formal evaluation of the Nephrology trainee at the end his rotation.
- 5.14.3. The postgraduate Training Committee agrees that the elective will contribute substantially to the trainee's training and gives its approval, such as Pediatric Nephrology rotation, Radiology, research project.

5.15. Hospital and department of Medicine Educational Activities :

The Nephrology trainee will attend the following rounds :

- 5.15.1. Morning reports of the Department of Medicine
- 5.15.2. Beside rounds
- 5.15.3. Internal Medicine grand rounds
- 5.15.4. Hospital ground rounds
- 5.15.5. Diagnostic and Therapeutic rounds

5.16. Trainee Evaluation :

Evaluation of knowledge and performance is essential for the trainees to identify and improve his areas of weakness. Informal evaluation will be continuous. At certain points in the training program, formal evaluations will be conducted, and the results discussed, and areas of weakness corrected.

- 5.16.1. After satisfactory completion of 2 years of training, the trainee will received a certificate of competence issued by the division of Nephrology with the approval of the Department of Medical Education.
- 5.16.2. Upon completion of the training program, the trainee will be expected to take a certification examination in Nephrology conducted by the Arab Board of Health Specializations provided that he is already certified in Internal Medicine.
- 5.16.3. If at any time the trainee's performance falls below the standard set by the members of the division of Nephrology, a meeting of the department postgraduate training committee and the trainee will be held to find ways to improve his performance. Failure to improve or to meet the standards on a single subsequent, evaluation will be sufficient reason to ask the trainee to withdraw from the program.

5.16. Format of certifying examination :

تحديث القواعد الامتحانية

القواعد الامتحانية لاختصاص أمراض الكلى

الامتحان النهائي لاختصاص أمراض الكلى

يتكون من جزئين أساسيين :

١- الامتحان الكتابي النهائي .

٢- الامتحان السريري والشفوي .

أولاً. الامتحان الكتابي النهائي :

- ١- يعقد هذا الامتحان مرة واحدة كل عام (دورة ديسمبر) .
- ٢- يتكون من ورقة واحدة فقط .
- ٣- عدد الأسئلة ١٠٠ سؤال ، والوقت المسموح به حسب اللائحة الداخلية للمجلس ٢.٣٠ ساعة.
- ٤- علامة النجاح في هذا الامتحان ٦٠ % .
- ٥- فرص التقدم للامتحان أربع محاولات على ألا تتجاوز آخر محاولة ضعف مدة التدريب . ويحق للمجلس العلمي منح فرصة استثنائية بحيث يترك لرئيس المجلس العلمي والسيد الأمين العام صلاحية تحديد الأسباب الموجبة لإعطاء هذه الفرصة . وفي حال استنفاذه فرص التقدم ، يرقن قيده نهائياً .

ثانياً. الامتحان السريري و الشفوي :

- ١- يشترط على المتقدم أن يكون ناجحاً بالامتحان الكتابي قبل دخول الإمتحان السريري والشفوي.
- ٢- يعقد هذا الإمتحان من ١-٢ دورتين بالعام . وتحدد المواعيد حسب نظام المجلس العربي للاختصاصات الصحية .
- ٣- يتكون من جزئين :

١- الامتحان السريري :

ويتألف من :

أ - الحالة الطويلة : والوقت المسموح به هو ساعة مقسمة الى جزئين :

٣٠ دقيقة لأخذ السيرة المرضية وفحص المريض .

٣٠ دقيقة للنقاش مع لجنة الإمتحان .

العلامة المحددة لها : ٤٠% .

ب- الحالات القصيرة : وعددها ٣ . والوقت المسموح به هو ٣٠ دقيقة .

العلامة المحددة لها : ٣٠% .

٢- الامتحان الشفوي :

يكون على شكل (OSCE) والوقت المسموح به ٣٠ دقيقة .

العلامة المحددة له : ٣٠% .

علامة النجاح في الامتحان السريري والشفوي ٦٠ % .

فرص التقدم للامتحان السريري والشفوي أربع محاولات امتحانية + فرصة استثنائية بنفس الشرط السابق لمنح الفرصة الاستثنائية ، بحيث لا تتجاوز آخر محاولة ضعف مدة التدريب . وفي حال عدم نجاحه ، عليه أن يتقدم للامتحان النهائي الكتابي لدورتين فقط . وفي حال عدم نجاحه في الامتحان النهائي الكتابي ، يفصل من البرنامج ويشطب قيده .

أما في حال نجاحه في الامتحان النهائي الكتابي ، فيحق له فرصتين للتقدم للامتحان السريري والشفوي . وفي حال عدم نجاحه ، يفصل من البرنامج ويشطب قيده .

5.18. Evaluation of Postgraduate Training Program

- 5.18.1. At any time, the Nephrology trainee should feel free to approach the program director or any consultant in the division to discuss problems with his educational program.
- 5.18.2. The Postgraduate Training Committee will meet every 6 months to evaluate the performance of the training program.
- 5.18.3. At the end of each academic year, each Nephrology trainee will submit a written and confidential evaluation of the program to the Department Postgraduate Training Committee.

Table of Contents

1. General Objectives	1
2. Prerequisite for the institution providing a Nephrology postgraduate training	2
3. Qualification of the program staff	3
3-1. Postgraduate training program director	
3-2. Other nephrology staff members	
3-3. Application outline	
3-4. program outline	
3-5. Relationship to the Department of Medicine	
3-6. Relationship to the Department of medical education (Academic Affairs)	
4. Program objectives	
5. trainee activities	
5-1. Outpatient clinic	
5-2. Inpatient consultations	
5-3. Nephrology inpatients	
5-4. Hemodialysis	
5-5. Renal transplantation	
5-6. Hypertension	
5-7. Nephrology Procedures	
5-8. Nephrology "on-call"	
5-9. Presentation of nephrology cases or topics	
5-10. nephrology journal club	
5-11. Nephrology meeting	
5-12. Self directed study	
5-13. research project	
5-14. Electives	
5-15. Hospital and Department of Medicine educational activities	
5-16. trainee evaluation	
5-17. Format of Certifying examination	
5-18. evaluate of Postgraduate Training Program	