



Interventional Nephrology Fellowship Training Program Department of Medicine

Introduction:

The Interventional Nephrology Training Program at King Faisal Specialist Hospital and Research Centre (KFSH&RC) will provide extensive experience in the field of Interventional Nephrology. The fellowship program will offer in-depth clinical training in the field leading to expertise in diagnosis and management of disorders related to dialysis access as well as expertise in performing all procedures related to the care of patients with chronic kidney disease (CKD) and End Stage Renal Disease (ESRD). The scope of the program includes training in pre-dialysis evaluation of patient reaching ESRD, performing vascular ultrasonography pertinent to dialysis access creation, learning to perform all endovascular procedures related to dialysis vascular access, placing and management of peritoneal dialysis catheter, renal ultrasonography, performing kidney biopsies, and performing physical examination on dialysis vascular access.

General Objectives:

The mission of the fellowship program is to produce clinically competent interventional nephrologists with strong commitment to dialysis access and develop habits of life-long learning to allow for continued growth in knowledge, skills and other aspects of a professional career in Interventional Nephrology.

Specific Objective:

To develop clinical competence in trainees pertaining to Interventional Nephrology. Clinical competence in Interventional Nephrology is defined as:

1. A basic core understanding of anatomy, histology, physiology, genetics, pharmacology, epidemiology, statistics, and procedures relative to the practice of Interventional Nephrology.
2. A basic core knowledge of the pathogenesis, histopathology, pathophysiology, clinical manifestations and management of vascular access for hemodialysis, access for peritoneal dialysis, general knowledge of diagnostic renal ultrasonography and real-time ultrasound guided kidney biopsy.
3. The clinical skill of data collection including history-taking, physical examination and the appropriate use of radiologic and laboratory tests particularly as pertaining to the diagnosis of vascular access for hemodialysis, peritoneal dialysis and kidney biopsy.
4. The ability to formulate appropriate differential diagnoses and therapeutic plans based on an ability to critically analyze the clinical data and integrate this analysis with the basic fund of medical knowledge in regards to the practice of Interventional Nephrology.
5. The knowledge of the treatment of the common and uncommon problems encountered in the practice of Interventional Nephrology including an understanding of the principles, indications, contra-indications, risks, costs and expected outcome of the various treatments.

6. The performance and/or interpretation of diagnostic and therapeutic procedures common in the practice of Interventional Nephrology.
7. The ability to perform competently as a primary operator in all procedures included in the practice of Interventional Nephrology.
8. The ability to recognize the need and appropriately seek input from colleagues in other specialties through consultation.
9. The development of qualities of professionalism and humanistic skills including integrity, compassion and respect for patients, peers, and paramedical personnel.
10. An understanding of current research methods. All fellows must be capable of demonstrating an understanding of the design, implementation, and interpretation of research studies, specifically research methodology, critical interpretation of data, critical interpretation of published research, and the responsible use of informed consent.
11. To have done enough procedures as primary operator (total of at least 125) to satisfy the certification requirements of the American Society of Diagnostics and Interventional Nephrology (ASDIN). These procedures include:
 1. Angiography of peripheral hemodialysis vascular access-25 cases including both grafts and fistulas
 2. Angioplasty of peripheral hemodialysis vascular access-25 cases including both grafts and fistulas
 3. Thrombolysis/thrombectomy of peripheral hemodialysis vascular access-35 cases including both grafts and fistulas.
 4. Tunneled long-term hemodialysis catheter procedures-25 cases of placements, 25 removals, and 15 exchanges.
 5. Placement of endovascular stents-5 cases
 6. Obliteration of accessory veins-5 cases.
 7. Peritoneal catheter related procedures-8 placements, 2 removals.

Admission Requirements:

Candidates must have completed Residency Training in Internal Medicine and Fellowship in General Nephrology. Applicants should possess a Saudi Specialty Certificate or must have at least passed the written examination and registered for the final parts. Other candidates must possess an equivalent certification.

Initial application using the ATA approved forms along with three recent letters of recommendation and a sponsorship letter should be submitted to the Academic and Training Affairs (ATA) department at KFSH&RC. Completed applications will be forwarded to the program director of Interventional Nephrology fellowship program by the ATA. Shortlisted candidates must then successfully complete a personal interview by the members of the departmental fellowship board. Final acceptance of the candidates will then need to be endorsed by the ATA and the Saudi Commission for Health Specialties.

Structure of Training Program:

Duration: 1 year

Rotations during the 12 month fellowship:

Interventional Nephrology: 6 months

Vascular Surgery: 1 month

Research: 1 month

Electives: 6 weeks. These can be arranged in interventional nephrology, vascular surgery, renal ultrasonography, renal pathology, Dialysis access services etc. as opted by the trainee in consultation with the program director. Trainees who need more procedures to develop necessary technical skills may be asked to spend these /or part of these months in the interventional nephrology service.

General Nephrology service: 6 weeks. This rotation will be split into three 2-weeks blocks.

Vacations: 1 month

The fellow will be required to attend the half-day dialysis access clinic once a week during all the rotations. In addition, the fellow may be assigned a half-day PD or CKD clinic per week during some of the rotations.

Credits for rotations other than interventional nephrology can be granted to individuals who already have the American Board of Nephrology or equivalent. This is completely up to the discretion of the program director.

Interventional Nephrology Service:

The Interventional Nephrology Service is an inpatient/outpatient service designed to care for patients with end-stage kidney disease (ESRD) and chronic kidney disease (CKD) who require diagnostic and/or treatment related to vascular access for hemodialysis, peritoneal dialysis, or kidney biopsy. The Interventional Nephrology Service sees patients on the 3rd floor of the North Tower. The Interventional Nephrology Team includes the Interventional Nephrology consultant, Interventional Nephrology assistant consultant, and one Interventional Nephrology fellow each month.

Responsibilities of the renal Fellow on this rotation include, but are not limited to:

1. Evaluating the need for dialysis in patients who come to the hospital for an Interventional Nephrology related procedure.
2. Be the primary or secondary operator of the Interventional Nephrology procedures.
3. Performing renal biopsies in outpatients and inpatients.
4. Follow-up all patients who underwent an interventional procedure until they are discharged from the Day Surgery Center.
5. Follow patients in both hemodialysis and peritoneal dialysis centers at KFSH&RC regarding dialysis access. Perform and learn appropriate physical examination on patients with hemodialysis vascular access.

Essential in this role is the development and refinement of clinical skills in the evaluation, diagnosis, treatment, and follow-up of patients with vascular access issues. These skills include developing appropriate differential diagnoses, assessing the need for hospitalization, and implementing diagnostic strategies and treatment plans. Through this experience the fellow will also develop a comprehensive understanding of the indications, contraindications, techniques, and complications of vascular access for hemodialysis, peritoneal dialysis, vascular access placement, and renal biopsies. The fellow will also acquire skills in educating patients about these procedures and in obtaining informed consent.

Evaluation and Promotion:

The fellow will be evaluated every three months regarding basic knowledge, clinical knowledge, research activities, general attitude towards colleagues and patient care, and skills attained in performing interventional nephrology related procedures. A DOPS (Direct Observation of Procedural Skills) form will be used to assess the clinical and procedural skills. Final evaluation will be done at the end of fellowship and the fellow will be expected to have fulfilled the procedural requirements as outlined before and required for certification by the American Society of Diagnostics and Interventional Nephrology. Since it's a one year fellowship there is no promotion.

Completion

It is a one year fellowship. At completion the fellow will be expected to have fulfilled the procedural requirements as outlined above. There will be a written examination and a minimum score of 80% will be required for completion of the fellowship. In order to qualify to take the written exam, the fellow must have performed satisfactorily in all quarterly evaluations endorsed by a faculty member certified as Interventional Nephrologist by the American Society of Diagnostics and Interventional Nephrology.

Leaves & Holidays:

The fellows will be allowed leaves according to the policy for fellows at KFSHRC. Generally it will be 4 weeks of annual leave plus one week for CME and presentations at international or national conferences.

Faculty Requirements:

Program Director has to be certified by the American Society of Diagnostic & Interventional Nephrology or equivalent. The other faculty has to be competent in all procedures related to Interventional Nephrology and should at least meet the criteria for certification in Interventional Nephrology.

Interdisciplinary Interactions:

The fellows will be provided with the opportunity to interact with staff of the Vascular Surgery Section.

Didactic Conferences:

The Interventional Nephrology fellow is encouraged to attend all the conferences held on a regularly scheduled basis by the Section of Nephrology. Journal club is held weekly in Section of Nephrology. The Interventional Nephrology fellow will be encouraged to present at least once a month in that Journal Club. The Interventional Nephrology fellow is encouraged to attend Medical Grand Rounds held every Tuesday by the Department of Medicine. They are encouraged to give lectures to the Interventional Section on the already set-up lecture times.

Research Experience:

The primary goal of the research experience is for the fellow to learn sound methodology in designing and performing research studies and the correct interpretation and synthesis of research data. During this phase of training, the fellow will work under close guidance of the research mentor from either the Nephrology or Vascular Surgery Section. Fellows working on specific research projects will be given adequate uninterrupted, protected time to pursue the research goals. Another goal of the research experience is to develop a body of work suitable for presentation at national scientific meetings and publication in peer-reviewed journals. At least one publication or presentation will be considered mandatory for graduation from the program.

Experience in Developing Teaching Skills:

Fellow will be encouraged to educate medical residents, other allied health personnel, and patients. These teaching activities will be observed by faculty whenever practical so that feedback can be relayed to the fellow.

Books and Reading Materials:

1. ASDIN core curriculum on Hemodialysis Endovascular Procedures
2. ASDIN core curriculum on Peritoneal Dialysis related procedures.
3. Textbook of Interventional Nephrology by Arif Asif MD.

Websites:

ASDIN. American Society of Diagnostic and Interventional Nephrology. <http://www.asdin.org>

Journal:

The Journal of Vascular Access