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AMERICAN OSTEOPATHIC ASSOCIATION

**Specific Basic Standards for  
Osteopathic Fellowship Training in  
Nephrology**

**American Osteopathic Association  
and  
American College of Osteopathic Internists**

BOT Rev. 2/2011

These specific basic standards are part of the *Common Basic Standards for Fellowship Training in Internal Medicine Subspecialties*, which govern and define training in all medical subspecialties. These requirements are in addition to all requirements in the Common Basic Standards.

## **INSTITUTIONAL REQUIREMENTS**

- 4.1 The base institution or an affiliate must have facilities for acute and chronic hemodialysis, continuous renal replacement therapy, acute and chronic peritoneal dialysis or have these facilities available via an affiliation agreement.
- 4.2 The base institution or an affiliate must have facilities to perform renal transplantation or have these facilities available via an affiliation agreement.
- 4.3 The base institution or an affiliate must have facilities for performance of renal biopsy.
- 4.4 The base institution or an affiliate must have facilities for renal biopsy processing by light, electron microscopy and immunofluorescence.
- 4.5 The base institution or an affiliate must have radiology facilities and services that can provide renal-related procedures including, at minimum: ultrasound, computerized tomography and diagnostic radionuclide laboratory.
- 4.6 The base institution or an affiliate must have availability and evidence of interaction with specialists in, at minimum:
  - a Surgery;
  - b Vascular surgery;
  - c Urology;
  - d Obstetrics and gynecology;
  - e Pediatrics; and
  - f Psychiatry.
- 4.7 The base institution or an affiliate must have renal nutrition services.
- 4.8 The base institution or an affiliate must have renal social service support.
- 4.9 The base institution or an affiliate must have laboratory space and assistance for the fellows to conduct research.

## **V PROGRAM REQUIREMENTS AND CONTENT**

### **A. Program Duration**

- 5.1 The fellowship training program is a full-time training program of a minimum of 24 months in duration.
- 5.2 A minimum of 12 months must include supervised management of patients (clinical rotations).

### **B. Medical Knowledge**

- 5.3 There must be a monthly basic science conference.
- 5.4 There must be a monthly renal biopsy conference.
- 5.5 There must be a monthly research conference.
- 5.6 The fellow must present a minimum of four clinical lecture conferences under the guidance of a faculty member each year.

- 5.7 The fellow must have learning activities in renal physiology, anatomy and pathology.
- 5.8 The fellow must have learning activities in the disorders of fluids, electrolytes and acid-base balance.
- 5.9 The fellow must have learning activities in the pathogenesis and management of acute renal failure.
- 5.10 The fellow must have learning activities in the tests of glomerular filtration rate, renal blood flow, urinary dilution and concentration, urinary acidification and various Kt/V calculations.
- 5.11 The fellow must have learning activities in imaging diagnostic studies of the kidney and urinary tract that include intravenous urography, angiography, retrograde studies, voiding cystourethrograms, radionuclide scans, ultrasonography, computerized tomography, MRI, renal venography and renal vein sampling.
- 5.12 The fellow must have learning activities in the pathogenesis, natural history and management of congenital and acquired diseases of the kidney and urinary tract and renal diseases associated with systemic disorders such as diabetes, collagen-vascular diseases and pregnancy.
- 5.13 The fellow must have learning activities in normal mineral metabolism and its alteration in renal diseases, metabolic bone disease and nephrolithiasis and principles of lithotripsy.
- 5.14 The fellow must have learning activities in normal and abnormal blood pressure regulation.
- 5.15 The fellow must have learning activities in clinical pharmacology, including drug metabolism and pharmacokinetics and the effects of drugs on renal structure and function.
- 5.16 The fellow must have learning activities in the nutritional aspects of renal disorders.
- 5.17 The fellow must have learning activities in immunology, including basic principles, immunologic mechanisms of renal disease and basic aspects of diagnostic laboratory immunology relevant to renal diseases.
- 5.18 The fellow must have learning activities in renal transplantation, which must include biology of transplant rejection, indications for and contraindications to transplantation, principles of recipient evaluation and selection, principles of donor evaluation, histocompatibility testing, principles of organ harvesting, preservation and sharing and psychosocial aspects of organ donation and transplantation.
- 5.19 The fellow must have learning activities in dialysis and extracorporeal therapy, including kinetic principles of hemodialysis and peritoneal dialysis, dialysis indications, complications and management of each mode of dialysis, principles of dialysis access, urea kinetics and protein catabolic rate, nutritional management of dialysis patients, reuse of artificial kidneys, artificial membranes used in hemodialysis and biocompatibility, and psychosocial and ethical issues of dialysis.
- 5.20 The fellow must have learning activities in geriatric renal medicine, including physiology and pathology of aging kidney and drug dosing and renal toxicity in elderly patients.
- 5.21 The fellow must have learning activities in the principles of staging of chronic kidney disease and National Kidney Foundation Kidney Disease Outcomes Quality Initiative guidelines.
- 5.22 The fellow must have learning activities in the regulations and guidelines set forth by agencies regarding end-stage renal disease and the utilization of dialysis and transplant services.

### **C. Patient Care**

- 5.23 The fellows must spend a minimum of eight (8) weeks on a renal transplant service.
- 5.24 The fellow must have availability and evidence of patient care exposure to acute renal failure.
- 5.25 The fellow must have availability and evidence of patient care exposure to all stages of chronic kidney disease and its complications.
- 5.26 The fellow must have availability and evidence of patient care exposure to hypertensive disorders.
- 5.27 The fellow must have availability and evidence of patient care exposure to disorders of fluid and electrolyte regulation.
- 5.28 The fellow must have availability and evidence of patient care exposure to disorders of mineral metabolism including metabolic bone disease.
- 5.29 The fellow must have availability and evidence of patient care exposure to disorders of acid-base regulation.
- 5.30 The fellow must have availability and evidence of patient care exposure to glomerular and vascular diseases.
- 5.31 The fellow must have availability and evidence of patient care exposure to tubulointerstitial and cystic renal diseases.
- 5.32 The fellow must have availability and evidence of patient care exposure to genetic and inherited disease of the kidney and urinary tract and inherited disorders of transport.
- 5.33 The fellow must have availability and evidence of patient care exposure to urolithiasis.
- 5.34 The fellow must have availability and evidence of patient care exposure to urinary tract infections.
- 5.35 The fellow must have availability and evidence of patient care exposure to renal disorders of pregnancy.
- 5.36 The fellow must have availability and evidence of patient care exposure to geriatric aspects of nephrology.
- 5.37 The fellow must have availability and evidence of patient care exposure to disorders of drug metabolism, renal drug toxicity and management of drug overdose.
- 5.38 The fellow must have availability and evidence of patient care exposure to renal transplantation including evaluation and selection of transplant candidates, preoperative evaluation and preparation of transplant requirements and donors, immediate postoperative management, clinical diagnosis of rejection, medical management of rejection, recognition and medical management of surgical and nonsurgical complications of transplantation and long-term follow-up of recipients.

- 5.39 The fellow must have availability and evidence of patient care exposure to dialysis and extracorporeal therapy including evaluation and selection of patients for acute hemodialysis, continuous renal replacement and chronic hemodialysis; evaluation and management of medical complications of hemodialysis; long-term follow-up of patients including dialysis prescription and assessment of adequacy of dialysis; understanding of principles and practice of peritoneal dialysis, how to write a peritoneal dialysis prescription and how to assess peritoneal dialysis adequacy; an understanding of the complications of peritoneal dialysis; and an understanding of the nutritional requirements of patients undergoing hemodialysis and peritoneal dialysis.
- 5.40 The fellow must attend the monthly patient care meetings in a chronic dialysis facility.
- 5.41 The fellow must attend the quality care review of patients in a chronic dialysis facility.
- 5.42 The fellow must have training and experience in urinalysis, percutaneous biopsy of autologous and transplanted kidneys, placement of temporary vascular access for hemodialysis, peritoneal dialysis, acute and long-term hemodialysis and continuous renal replacement therapy to include, at minimum: indications, contraindications, complications, limitations, interpretation and evidence of competent performance.
- 5.43 The fellow must have training and experience in radiology of vascular access, balloon angioplasty of vascular access, plasmapheresis, bone biopsy, placement of peritoneal catheters, renal ultrasound and lithotripsy to include, at minimum: indications, contraindications, complications, limitations and interpretation.

#### **D. Ambulatory Clinic**

- 5.44 The fellow must attend a continuity clinic for a minimum of four hours per week, 46 weeks per year.
- 5.45 The fellow must see a minimum of two new patients and three follow-up patients per week in the ambulatory clinic.
- 5.46 The fellow must maintain a log of all outpatient cases.
- 5.47 The fellow must have exposure to the long-term continuity care of patients with chronic kidney disease, hypertensive disorders and other medical renal-related disorders.
- 5.48 The fellows must have longitudinal follow-up of patients with renal transplants in an ambulatory setting.