



BASIC STANDARDS
FOR
SUBSPECIALTY RESIDENCY
TRAINING
IN
NEPHROLOGY

American Osteopathic Association
and the
American College of Osteopathic Internists

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**BASIC STANDARDS FOR
SUBSPECIALTY RESIDENCY TRAINING
IN
NEPHROLOGY**

ARTICLE I - INTRODUCTION AND DESCRIPTION

This two year training program is designed to develop clinical and laboratory skills in the diagnosis and treatment of disturbances of the renal system, fluid and electrolyte disorders, acid-base disturbances, metabolic bone diseases, and hypertension of both primary and secondary etiologies.

ARTICLE II - EDUCATION PROGRAM

I. Aims of Nephrology Training

A. Needs of a Nephrology Residency Program

This subspecialty residency program should be based in an American Osteopathic Association (AOA)-approved osteopathic medical college or an AOA-approved institution that has a meaningful affiliation with an osteopathic academic center.

The college or institution must have an organized Department of Internal Medicine and an approved residency program in internal medicine. Training sites must include acute care hospitals, with an associated or affiliated acute and chronic dialysis unit and access to a transplantation program.

B. Purpose or Objective of a Nephrology Training Program

1. Concepts:

a. The training of the residents in renal diseases should include the observation and correlation of neuromusculoskeletal lesions as they are applied to the diagnosis and therapeutics of systemic disease and its application to the osteopathic concepts in the practice of renal diseases.

b. At the completion of the training program the trainee must be able to provide a comprehensive consultation of a high standard expected from an

expert clinical nephrologist. The trainee must have the necessary medical knowledge, clinical judgement and clinical skills to adequately diagnose and manage situations which include but are not limited to

1. Acute renal failure and its complications;
2. Chronic renal failure and its complications;
3. All forms of hypertension (essential, secondary, accelerated, malignant) and its complications;
4. Disorders of salt and water metabolism;

EDUCATION PROGRAM (continued)

5. Disorders of potassium, calcium, magnesium, and phosphate metabolism;
 6. Disorders of hydrogen ion metabolism - acid base;
 7. All forms of glomerular disease;
 8. Congenital diseases of the kidney and urinary tract;
 9. Medical aspects of urolithiasis;
 10. Acute and chronic interstitial nephritis;
 11. Hypertension and toxemia of pregnancy;
 12. Vasculitis;
 13. Patients receiving immunosuppressive therapy;
 14. Renal transplant recipients and their complications;
 15. Drug overdose and the clinical application of hemoperfusion;
 16. Dialysis patients and their complications.
- c. At the end of the training program the physician should be able to understand and/or interpret:
1. Normal renal physiology;
 2. Principles of tissue typing for renal transplantation;
 3. Kidney biopsy specimens (light, immunofluorescence and electron microscopy);
 4. Tests of glomerular filtration rate, renal blood flow and renal plasma flow;
 5. Tests of urinary dilution and concentration;
 6. Tests of urinary acidification;
 7. Tests of renal venography and renal vein sampling;
 8. Imaging studies of the genitourinary system that include IVP, angiography, retrograde studies, voiding cystourethrograms, radionuclide scans, ultrasounds and CT scans;
 9. Hemodynamic consequences of vascular accesses suffering from end stage renal disease;
 10. Types of vascular access and their appropriate application for the patient with end stage renal disease;
 11. The kinetics of peritoneal dialysis;
 12. The kinetics of hemodialysis;
 13. The kinetics of hemofiltration;
 14. The regulations and guidelines set forth by agencies, regarding end stage renal disease and the utilization of dialysis and transplant services;

15. Principles of water purification for hemodialysis.

EDUCATION PROGRAM (continued)

2. Skills.
 - a. At the end of the training program the trainee must possess satisfactory skills in:
 1. Percutaneous renal biopsy;
 2. Peritoneal dialysis (acute and chronic);
 3. Hemodialysis (acute and chronic);
 4. Temporary vascular access for hemodialysis and related procedures;
 5. Skillful urinalysis and interpretation of stained and unstained sediment.

The following publications are an aid to the specific competencies required for the skills listed in 1-4 above: *Annals Int. Med.* 108:301-303, 1988; 108:632-634, 1988; and 108:763-765, 1988.

- b. At the end of the training program the trainee may be required to possess additional skills in other procedures unique to the practice of nephrology. Acquisition of these additional skills will be at the discretion of the local program director and the requirements of the program. Examples of such skills include but are not limited to:
 1. Hemofiltration;
 2. Hemoperfusion;
 3. Placement of peritoneal access for chronic ambulatory peritoneal dialysis.
3. Attitudes, Behavior and Humanistic Qualities.

The trainee must develop the appropriate humanistic qualities necessary for the care of patients and their families. In addition, essential professional attitudes, behavior and communications skills must be developed in order to adequately relate to patients, their families and other health professionals. The trainee must be able to demonstrate a high standard of moral and ethical behavior throughout the training program.

4. Resources.
 - a. Teaching staff: The program director shall be certified in the subspecialty of nephrology by the AOA through the American Osteopathic Board of Internal Medicine. Other members of the section or

department involved in the training of residents shall be board eligible or board certified.

- b. The institution must provide evidence of a sufficient volume of patients with diversified pathology and must indicate the methods by which patients are utilized for teaching.

EDUCATION PROGRAM (continued)

c. Facilities

1. Equipment: There must be equipment, modern and in good condition to assure attainment of the stated objectives. There should be an electronics technician available to assure maintenance.
2. Research Space: The training institution must provide, either directly or by arrangement, suitable laboratory space and assistance for the residents to conduct research.

d. There must be an organized and cooperative Department of Pathology and Radiology.

C. Pedagogical Methodology

1. Narrative Description of the Program.

- a. During the first year of training, the resident is to have responsible participation in the bedside diagnosis and medical management of all cases admitted to the hospital service. In addition, he/she is to participate in clinical diagnostic procedures outlined in Article II, Section I, 2a. Adequate time must be provided for the study and self-improvement in the basic sciences related to the renal system.

During the second year, in addition to clinical responsibilities, the resident is to design and implement, in conference with the program director or his/her designee, at least one research project.

A scientific manuscript based on the research project is required for satisfactory completion of the program.

- b. Teaching conferences must be conducted at least once weekly.
- c. The resident should be required to engage actively in the teaching program for other residents, interns and students.
- d. The resident is encouraged to participate in an outpatient renal clinic and document long term follow-up and management of renal disorders.

- e. The resident is required to maintain a log of all cases, procedures and techniques for which he/she has had primary responsibility. (For purposes of initiating the program of review and approval in this specialty, the resident will be required to annually submit his/her log to the ACOI Council on Education and Evaluation.)
- f. Portions of the training program which the training institution assigns to other institutions must be appropriately documented.

EDUCATION PROGRAM (continued)

II. Features of Nephrology Training

A. Minimum Duration of Training.

- 1. This is a two year, full-time training program.
- 2. Prior to this training program the candidate for this subspecialty training program must have graduated from an AOA-approved college of osteopathic medicine, satisfactorily completed an AOA-approved internship and at least two years of an AOA-approved residency in general internal medicine.

B. Required Training and Expected Outcomes.

- 1. Educational Objectives
 - a. In keeping with the osteopathic concept, the training of residents in nephrology will emphasize the objectives outlined under Article II, Section B.

C. Acceptable Elective Training.

- 1. Electives pertaining to nephrology, such as pediatric nephrology, may be specified and must be approved by the program director as determined by the individual needs of each resident in order to provide him/her with appropriate experiences to effectively fulfill the educational objectives of the training program.
- 2. Electives must not exceed 25 percent of the total time of the training program.

ARTICLE III - INSTITUTIONAL REQUIREMENTS

I. AOA Accreditation

- A. The institution (osteopathic academic center or its affiliate) must be accredited by the AOA, or must be affiliated with a college of osteopathic medicine or an AOA-accredited training institution.

II. Rules and Regulations in the Residency Training Requirements of the AOA

- A. This subspecialty training program must comply with the bylaws, rules and regulations of the department of internal medicine in the AOA-approved training institution as set forth in the residency training requirements for internal medicine of the AOA.

INSTITUTIONAL REQUIREMENTS (continued)

III. Faculty

A. Minimum Numbers.

1. There must be no fewer than two (2) faculty members with daily training program responsibility.

B. Qualifications.

1. Program Director - See Article V.
2. Other members of the faculty involved in the training of residents in nephrology shall be AOA-certified or board eligible in internal medicine and nephrology.

C. Faculty/Resident Ratio.

1. The minimum faculty/resident ratio should be one (1) faculty to one (1) resident.

IV. Hospital Facilities

A. Minimum Scope, Volume and Variety for Two Residents.

1. The institution (osteopathic academic center or its affiliate) must provide evidence of a sufficient volume of nephrology patients in an acute care facility and outpatient clinic with diversified pathology to train two (2) residents. Availability of an active acute and chronic dialysis program is mandatory.

B. Equipment and Research Areas.

1. The training institution must provide access to suitable laboratory space, and assistance for residents to conduct research.

C. Library (Minimum Requirements and its Location).

1. The professional library shall meet the minimum requirements for residency training in internal medicine.
2. The library shall include a minimum of ten (10) current textbooks and a minimum of four (4) current journals dealing with nephrology.
3. The training institution shall maintain a well-lighted and properly equipped professional library.

4. It shall be of sufficient size to ensure a satisfactory study area for the professional staff.

INSTITUTIONAL REQUIREMENTS (continued)

D. Outside Rotations and/or Exchanges to Cover Deficiencies.

1. Outside rotations, such as pediatric nephrology or renal transplantation, and/or exchanges to compensate for training program deficiencies may be specified and must be approved by the program director in order to provide the resident with appropriate experiences to effectively fulfill the educational objectives of the training program.

E. Depth of Support Needed From Other Departments.

Crucial to the care and support of the nephrology patients is the availability of services of Urology, Cardiovascular Surgery, and Psychiatry-Psychology, as well as Social Services, Dietary, Osteopathic Medicine, and Physical Therapy.

V. Educational Policies

A. Defined Mechanism to Evaluate the Quality of Nephrology Training.

1. A direct relationship exists between the quality of patient care and the quality of a residency training program. Therefore, an institution approved to conduct a training program in nephrology shall be re-evaluated at regular intervals. This re-evaluation shall be conducted by the ACOI in cooperation with the Council on Postdoctoral Training of the AOA. Its purpose will be to determine the institution's degree of compliance with the standards set forth in this document.
2. An institution applying for a residency training program in nephrology will be evaluated to determine if its stated objectives are realistic, and if the program is designed to meet these objectives.
3. The program director shall provide an annual report to the DME of the training institution outlining the progress of each resident in nephrology, and the compliance of the program with the standards set forth in this document. This report shall be made available to the inspectors from the AOA at the time of the re-evaluation of the program.
4. Each faculty member involved in the nephrology program shall submit his/her educational objectives to the program director for review and comment annually.

5. The program director and the teaching faculty shall conduct a self study of the nephrology training program every five (5) years.

INSTITUTIONAL REQUIREMENTS (continued)

- B. Defined Mechanism to Evaluate the Quality of Instruction.
 - 1. The quality of instruction should be evidenced by a regular lecture program, scheduled seminars, scheduled clinical rounds in both institutional and ambulatory outpatient facilities, reading assignments, and scheduled service rotations.
 - 2. Residents' logs shall be reviewed by the program director and faculty every six (6) months.
 - 3. Each resident shall submit to the DME his/her written evaluation of the involved faculty and program upon completion of each program rotation. The DME shall share this evaluation with the program director and the individual faculty members involved in the rotation.
- C. Defined Mechanism to Evaluate the Performance of Residents.
 - 1. Each involved faculty member will submit a written evaluation of each resident upon completion of a program rotation to the DME and the program director. These individual evaluations shall be shared with each resident.

VI. Hospital Policies

- A. Procedure for the Selection of Residents in Nephrology.
 - 1. A committee composed of the program director and faculty involved in the nephrology medicine training program will select residents after reviewing the candidate applications, candidate recommendations, and results of personal interviews by the committee with each candidate.
 - 2. Final selection of a resident will be subject to the approval of the DME of the training institution.
- B. Policy for Handling Grievances and Disciplinary Actions.
 - 1. Grievance procedures and appeal processes will follow the dictates of the training institution in consultation with the program director and chairman of the department of internal medicine as approved by the AOA in its

accreditation process.

2. Disciplinary actions shall be determined by the program director and the chairman of the department of internal medicine of the training institution.

INSTITUTIONAL REQUIREMENTS (continued)

- C. Adherence to AOA Code of Ethics.
 - 1. The program director, osteopathic physician faculty, resident candidates, and residents must adhere to the Code of Ethics of the AOA.

ARTICLE IV - DEPARTMENTAL REQUIREMENTS

As a subspecialty of internal medicine, nephrology and its training program is under the aegis of the department of internal medicine in an AOA-approved training institution.

I. Chairman

- A. Qualifications.
 - 1. The qualifications of the chairman of internal medicine will follow the bylaws of the training institution.
- B. Functions.
 - 1. The functions of the chairman of internal medicine will follow the dictates of the training institution.
- C. Responsibilities.
 - 1. The responsibilities of the chairman of internal medicine will follow the dictates of the training institution.
 - 2. Specifically, the chairman of internal medicine will be responsible for assuring that a nephrology training program fulfills the basic standards for residency training in nephrology as set forth in this document.

II. Policies

The nephrology training program will adhere to the policies of the department of internal medicine in the training institution with respect to rules and regulations; department conferences, seminars and lectures; and record keeping procedures.

ARTICLE V - PROGRAM DIRECTOR REQUIREMENTS

I. Professional Qualifications

A. Certification Status.

1. The program director shall be certified in internal medicine and nephrology by the AOA through the American Osteopathic Board of Internal Medicine.
2. In addition, the program director shall have had a minimum of two (2) years formal training in nephrology, approved by the AOA and ACOI.

B. Experience in the Specialty.

1. The program director should have a minimum of five (5) years in practice devoted primarily to nephrology.

C. Full or Part-Time.

1. The program director may have a nephrology service at more than one hospital; the majority of his/her time, however, must be at the site of the training program.

D. Qualifications as a Teacher.

1. The program director should be recognized as an able educator by his/her mentors, peers, paramedical associates and trainees.

E. Proof of Continuing Medical Education.

1. The program director should be able to supply written documentation of a minimum of 150 hours of continuing medical education approved by the AOA, 50 percent of which should be specifically in internal medicine and/or nephrology. A minimum of 30 CME hours in nephrology is required every three years.

F. Due to the necessity for continuing interaction with Nephrology colleagues in order to keep abreast of developments within the specialty, the program director must be a member in good standing of the ACOI.

PROGRAM DIRECTOR REQUIREMENTS (continued)

II. Responsibilities

The program director shall have the authority, responsibility, and be accountable for the performance of each of the following:

- A. Directing the nephrology training program.
- B. Arranging affiliations, exchanges, or outside rotations or experiences to meet the objectives and desired outcomes of the program.
- C. Eliciting the cooperation and participation of allied departments and services in the nephrology training program.
- D. Preparing required materials for AOA inspections.
- E. Conducting the operation of the residency program, for example:
 - 1. Coordinating the resident training schedules.
 - 2. Providing residents with ACOI and AOA basic standards of nephrology training, a copy of the training institution's model program, and a copy of the Code of Ethics of the AOA and the training institution.
 - 3. Overseeing the required papers and reports.
 - 4. Overseeing resident logs.
 - 5. Submitting annual training reports to Council on Education and Evaluation of the ACOI and the DME of the training institution.
 - 6. Developing journal clubs, reading programs or other educational experiences essential to training a clinically competent specialist in nephrology.
- F. The program director, or his/her designee, must attend at least once every three years the annual ACOI Congress on Medical Education For Resident Trainers to qualify for continuing approval of the program.

ARTICLE VI - RESIDENT REQUIREMENTS

I. Selection

The resident must:

- A. Be a graduate of an AOA-approved college of osteopathic medicine;
- B. Be a member of the AOA;
- C. Have completed an AOA-approved internship;
- D. Have completed a minimum of two (2) years in an AOA-approved residency in internal medicine.

II. Responsibilities

The resident must:

- A. Be licensed to practice in the State where training takes place if required by State statute;
- B. Adhere to the bylaws, rules and regulations of the department of internal medicine in the training institution;
- C. Report to the program director;
- D. Participate in professional staff activities;
- E. Perform instructional duties as specified by program director;
- F. Perform all programmatic tasks as directed by the program director;
- G. Attend departmental meetings, autopsies, etc. as specified by the program director;
- H. Complete all required papers, courses, rotations and research projects;
- I. Keep a complete and accurate log of cases, procedures and activities;
- J. Complete annual reports as required by the AOA.

**APPENDIX TO THE BASIC STANDARDS FOR
OSTEOPATHIC GME TRAINING OF ALL SPECIALTIES**

**MODEL HOSPITAL POLICY ON
ACADEMIC AND DISCIPLINARY DISMISSALS**

In July, 1993, the Board of Trustees of the American Osteopathic Association adopted the following policy:

The hospital and department have clearly defined procedures for academic and disciplinary action. Academic dismissals result from a failure to attain a proper level of scholarship or non-cognitive skills, including clinical abilities, interpersonal relations, and/or personal and professional characteristics. Institutional standards of conduct include such issues as cheating, plagiarism, falsifying records, stealing, alcohol and/or substance abuse, or any other inappropriate actions or activities.

In cases of academic dismissal, the hospital and department will inform trainees, orally and in writing, of inadequacies and their effects on academic standing. The trainee will be provided a specified period in which to implement specified actions required to resolve academic deficiencies. Following this period, if academic deficiencies persist, the trainee may be placed on probation for a period of three (3) to six (6) months. The trainee may be dismissed following this period, if deficiencies remain and are judged to be unremediable. In accordance with institutional policy, the trainee will be provided an opportunity to meet with evaluators to appeal decisions regarding probation or dismissal. Legal counsel at hearings concerning academic issues will not be allowed.

In cases of disciplinary infractions that are judged unremediable, the hospital and department will provide the trainee with adequate notice, in writing, of specific ground(s) and the nature of the evidence on which the disciplinary action is based. The trainee will be given an opportunity for a hearing in which the disciplinary authority will provide a fair opportunity for the trainee's position, explanations and evidence. Finally, no disciplinary action will be taken on grounds which are not supported by substantial evidence. The department and/or hospital intern training committee, or house staff education committee, or other appropriate committees will act as the disciplinary authority. Trainees may be allowed counsel at hearings concerning disciplinary issues. Pending proceedings on such disciplinary action, the hospital in its sole discretion may suspend the trainee, when it is believed that such suspension is in the best interests of the hospital or of patient care.

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