1996 Nephrology Curriculum: American Society of Nephrology

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Nephrology is a diverse and rapidly changing subspecialty. Trainees entering practice must have expertise and skills in many different areas. The Nephrology Curriculum has been developed by the American Society of Nephrology Training Program Directors Committee to complement Accreditation Council for Graduate Medical Education (ACGME) requirements (1) so that members of the Society can provide nephrology trainees with the fundamental knowledge and comprehensive training necessary for the practice of nephrology. Those of us who participated in this effort hope that the members of the American Society of Nephrology will find these guidelines helpful in planning and running nephrology training programs. The Curriculum will undoubtedly undergo revision in future years, and comments from members of the Society are always welcome.

Currently, accredited nephrology training programs must meet standards set by the ACGME. Revised ACGME requirements for nephrology training programs have been in effect since July 1995 (1). These requirements are modified periodically, and input is solicited from the major societies representing nephrology during the revisions. The American Society for Nephrology Curriculum should be used in conjunction with the ACGME guidelines on training in nephrology. Users of the Curriculum will find that the minimum requirements stipulated by the ACGME are no different than those stated in the Curriculum.

This Curriculum outlines a body of knowledge and skills with which a trainee should be familiar by the end of a nephrology fellowship. A research experience, although not mandatory, is strongly encouraged, even for trainees whose eventual goal is to practice nephrology in a medical center not affiliated with an academic institution. To provide such comprehensive training, programs should have a qualified program director and faculty with a broad range of expertise and a commitment to the teaching of nephrology.

The Curriculum is more detailed than the ACGME document in defining the extent and content of what should be taught in a nephrology training program. Moreover, the manner in which knowledge should be imparted to trainees is clearly outlined. The minimum duration of a nephrology program is described; it does not differ substantially from what is stated in the ACGME guidelines. Faculty-to-clinical-trainee ratio is defined to assure adequacy of teaching.

Development of the Curriculum

The Curriculum was developed using the expertise of selected members of the American Society of Nephrology.

Members of the Training Program Directors Executive Committee initially met on several occasions to define the scope of the undertaking. Documents from other subspecialty societies that had undertaken similar curriculum development efforts were reviewed and taken into consideration (2–4). Seventeen major areas of nephrology were identified. Certain areas, such as pediatric nephrology, were consciously not included, because it was felt that those curricula would be best written by other, more appropriate societies. Members of the committee were then assigned areas in which they were instructed to develop a curriculum. Expert consultants outside the committee were chosen to assist in defining the curriculum in each area. Each area was then peer-reviewed by another member of the committee for content and consistency. The curriculum was then reviewed by the American Society of Nephrology Council and the full Training Program Directors Committee. Several changes were made during the development of the document to take disparate views into account. The Curriculum will undoubtedly require regular revision as advances in treatment and diagnosis of renal disorders occur.

Since the development and circulation of the Curriculum, we have continued to receive input from several members of the society suggesting changes. The comments are insightful and useful and will be taken into consideration during the next review of this document.

Training Environment and Faculty

This section describes the environment in which nephrology training should occur. The minimum duration of a nephrology fellowship and the distribution of time in the various areas do not substantively differ from those mandated by the ACGME. Research experience and additional training in specialized areas (e.g., transplantation, dialysis, critical care) are encouraged but are not mandatory. The training program director and faculty must be suitably qualified and board certified in nephrology. The recommended faculty-to-clinical-trainee ratio should be maintained.

Content of the Curriculum

The specific program content encompasses the following topics: glomerular diseases, diabetes and its complications,
acute and chronic renal failure, acute and chronic renal replacement therapies, transplantation, acid-base disorders, disorders of divalent cation metabolism, interstitial renal disease, inherited renal diseases, renal disease in pregnancy, renal function testing, the pharmacology of drugs in renal disease, professionalism and ethical conduct, and research design and methods.

Within each section, areas with which the trainee should become familiar are described. Knowledge regarding these topics should be taught by the faculty in formal sessions. A journal club and a visiting faculty program should be in place. Trainees should participate in teaching. Methods to evaluate the performance of trainees should be in place, and information concerning performance should be regularly provided to trainees by the faculty. Similarly, the trainees must have the opportunity to evaluate the faculty and quality of teaching.

**Manner in Which to Utilize the Curriculum**

All trainees should be given a copy of the Curriculum at the beginning of their training. The faculty and trainees should cover all topics specified in the document. We suggest that nephrology training programs in the United States provide adequate faculty and training resources to teach the Curriculum. Didactic lecture series and other methods of teaching should be developed. Additional opportunities for fellows to obtain direct experience in the diagnosis, management, and treatment of nephrologic disorders may need to be provided.

**References**