Before July 1, 1994, the minimum training period for adult cardiology fellows was 3 years, as determined by the Accreditation Council for Graduate Medical Education (ACGME). No maximum training period was defined. Beginning July 1, 1994, the new special requirements specify that precisely 3 years are required. If a program specifies a longer training period (not to exceed 12 months), then this longer period must be justified; especially as to why the clinical training cannot be accomplished in 3 years. These new requirements do not apply to additional research training beyond that included in the standard 3 years.*

The new ACGME requirements for cardiology training, which were implemented July 1, 1994, were followed by the Core Cardiology Training Symposium (COCATS) Guidelines (1). The COCATS was held at Heart House, June 27 to 28, 1994. It followed the established format of a Bethesda Conference and was chaired by Dr. Joseph S. Alpert. Ten task forces made recommendations regarding training in various aspects of cardiovascular disease. This document (1) is "must" reading for all adult cardiology program training directors. Some of the highlights are summarized here.

A minimum of 24 clinical months of training was recommended. Furthermore, training was suggested at three levels (1):

**Level 1**—Basic training required of all trainees to be a competent, consulting cardiologist.

**Level 2**—Additional training in one or more specialized areas enabling a cardiologist to perform or interpret, or both, specific procedures at an intermediate skill level.

**Level 3**—Advanced training in a specialized area enabling a cardiologist to perform, interpret and train others to perform and interpret specific procedures at a high skill level.

*Letter dated September 23, 1994 from the Residency Review Committee for Internal Medicine (ACGME) to Program Directors in Internal Medicine Subspecialties.


The clinical core training of 24 months should include a minimum of 1) 8 months in nonlaboratory clinical practice activities (coronary care unit [3 months], cardiology consultations, cardiac surgery, cardiology in-patient service, heart failure/transport, preventive cardiology, etc.); 2) 4 months in the catheterization laboratory; 3) 6 months of noninvasive imaging; 4) 2 months in electrocardiography, stress testing, ambulatory electrocardiographic monitoring; and 5) 2 months of electrophysiology. A continuity of care experience of 1/2 day/week in the cardiology clinic should occur throughout the 3 years. There should be one full-time equivalent faculty member for each 1 1/2 trainees.

Suggested numbers of cases and logbooks are part of these new recommendations. For example, training in the cardiac catheterization laboratory should include a minimum of 4 months and 100 patients catheterized (level 1), 12 months and 300 procedures (level 2), and a fourth year of training with 300 coronary interventional procedures (125 with primary responsibility) for level 3. In the echocardiography laboratory level 1, training includes 3 months and 150 examinations. Level 2 requires an additional 3 months of training and 150 more examinations. Level 3 includes an additional 6 months of training and 450 examinations (grand total of 750). Level 3 training would also include transesophageal echocardiography and other specialized procedures.

Training in other areas, such as nuclear cardiology, electrophysiology, cardiac pacing, heart failure/transplantation, adult congenital heart disease, preventive cardiology and cardiac research, are also described in detail.

It should be remembered in reviewing the American College of Cardiology (ACC) adult cardiology training guidelines that these are an expansion and extension of the ACGME guidelines. When programs are reviewed for accreditation by the Residency Review Committee for Internal Medicine, they will be held accountable for the ACGME guidelines (2) and not necessarily the extensions or additions in the ACC document. Nevertheless, the ACC guidelines form a superb model for all adult cardiology training programs.
After 3 years of clinical cardiology training, an additional year of training is required by the American Board of Internal Medicine (ABIM) to sit for the examination for added qualifications in clinical cardiac electrophysiology. The ACC training guidelines also recommend that the ABIM consider giving an added qualifications examination in interventional cardiology after an appropriate year of training.

I recommend this document (1) to all involved in the training of adult cardiology fellows. At the same time, we must remind ourselves that adherence to the numbers outlined in this document do not necessarily ensure quality training. That comes from a dedicated, highly qualified faculty who express their appreciation for their own training by passing the torch to the next generation.

References