Interventional Cardiovascular Fellowship Training Program

I. GOALS OF THE PROGRAM

The objective of the Fellowship Training Program in Interventional Cardiovascular Disease is to provide an academically and clinically rigorous training program to give the trainee outstanding skills in interventional cardiology. The aim of the program is to provide the trainee with the basic and clinical knowledge, procedural skills, clinical judgment, professionalism and interpersonal skills required as a specialist in interventional cardiology. This training will prepare our fellows to function not only as highly competent interventional cardiologists, but also provide a background of investigation in the field of interventional cardiovascular research.

The goals of the program specifically include achieving high quality training (COCATS 2, Level 3) in each of the four following areas as outlined in the American College of Cardiology Training Statement on Recommendations for the Structure of an Optimal Adult Interventional Cardiology Training Program (JACC 1999;34:2141-7).

1. To understand the effectiveness and limitations of coronary interventional procedures in order to select patients and procedure types appropriately.

2. To achieve the appropriate cognitive knowledge and technical skills needed to perform interventional cardiac procedures at the level of quality attainable through the present state of the art.

3. To foster an attitude of life-long learning and critical thinking skills needed to gain from experience and incorporate new developments.

4. To understand and commit to quality assessment and improvement in procedure performance.
II. CURRENT OBJECTIVES OF THE PROGRAM

The fellowship program in Interventional Cardiology consists of one year of training at the University of California Davis Medical Center (UCDMC). The training program offers advanced training in interventional clinical cardiology as well as academic research training. The organization of the research portion of the training program is flexible, and may be tailored to individual fellows’ goals and interests. It is the intent of the fellowship administration to individualize training within ACGME and ACC/AHA guidelines to optimize each fellow’s opportunities for a career in interventional cardiology.

III. EDUCATIONAL OBJECTIVES AND CURRICULUM OF THE INTERVENTIONAL TRAINING PROGRAM

A. Clinical Service Overview

1. Duty Hours: Each fellow will spend no more than 80 hours per week, averaged over 4 weeks, caring for patients. Averaged over 4 weeks, each fellow will have one day (24 hours) in 7 free from duty.

2. Patient Population: The fellowship program in Interventional Cardiology is designed to provide a high level of clinical training. UC Davis Medical Center serves as a primary care hospital for the greater Sacramento area and as a tertiary care center for northern California. Trainees will be exposed to the full spectrum of cardiac ischemic syndromes. These include, but are not limited to, stable angina and a variety of acute cardiac ischemic syndromes such as unstable angina, acute myocardial infarction and cardiogenic shock. The trainee’s experience will include both interventions in native coronary arteries and surgically placed coronary bypass grafts. The trainee will also acquire significant experience in the management of patients who require circulatory support, particularly with intra-aortic balloon counterpulsation. The patients
from this institution represent a wide variety of both common and rare cardiovascular disorders and provide excellent exposure to all areas of cardiovascular medicine.

3. **Lines of Responsibility and Supervision:** A general principle of the responsibilities of cardiology fellows is that all the care they provide is within the context of a teaching service. Other than, as is expected of all physicians, providing urgent/emergent care when others are not available to do so, interventional cardiology fellows will provide care only to patients involved in a teaching process. In general, unless extenuating circumstances require deviation, orders will be written by the most junior house staff involved with a patient, with oversight by more senior house staff and faculty. Thus, if more junior house staff are immediately involved in the care of a patient, the interventional cardiology fellow will write orders only to the extent dictated by his or her expertise or involvement (example: pre- and post cath orders); the faculty will write only those orders required by level of experience (example: post angioplasty orders).

**IV. CARDIOVASCULAR COMPETENCY**

Faculty observe and evaluate factors which a written examination cannot test extensively. These evaluations are entered into the E*Value computer program. In addition, written testing, mini-CEX, and computer simulations are part of the cardiovascular competency review.

1. **Patient Care**

The fellow should provide patient care that is compassionate, appropriate, and effective care which encompasses the promotion of health, prevention of illness, treatment of disease, and end of life. At the cornerstone of competent patient care are the abilities to:
• gather accurate, essential information from all sources including medical
  interview, physical examinations, medical records, and diagnostic/therapeutic
  procedures;
• make informed recommendations about preventive, diagnostic, and therapeutic
  options and interventions that are based on clinical judgment, scientific
  evidence, and patient preference;
• develop, negotiate, and implement effective patient management plans and
  integration of patient care; and
• competently perform the diagnostic and therapeutic procedures inherent to the
  practice of internal medicine

2. Medical Knowledge

The fellow should demonstrate a command of established and evolving
biomedical, clinical, and social sciences and the application of that knowledge to patient
care and the education of others. Included in this context are:
• an open-minded and analytical approach to acquiring new knowledge;
• the ability to access and critically evaluate current medical information and
  scientific evidence;
• acquisition of applicable knowledge of the basic and clinical sciences that
  underlie the practice of internal medicine; and
• the application of this knowledge to clinical problem-solving, clinical decision-
  making and critical thinking.

3. Practice-Based Learning and Improvement

The fellow should use scientific evidence and methods to investigate, evaluate,
and improve patient care practices. This effort encompasses the abilities to:
• identify areas for improvement and implement strategies to enhance knowledge,
  skills, attitudes, values, and processes of care;
• analyze areas for improvement and implement strategies to enhance knowledge, skills, attitudes, values, and processes of care;
• develop and maintain a willingness to learn from errors and use errors to improve the systems of processes of care; and
• use information technology and/or other available methodologies to access and manage information, support patient care decisions, and enhance both patient and physician education.

4. Interpersonal and Communication Skills

The fellow should establish and maintain professional relationships with patients, families, and other members of health care teams. Included are the abilities to:
• provide effective and professional consultation to other physicians and health care professionals and sustain therapeutic and ethically sound professional relationships with patients, their families, and colleagues;
• use effective listening, nonverbal questioning, and narrative skills to communicate with patients and families;
• interact with consultants in a respectful, appropriate manner; and
• maintain comprehensive, timely, and legible medical records

5. Professionalism

Fellows should demonstrate behaviors that reflect a commitment to continuous professional development, ethical practice, and understanding and sensitivity to diversity, as well as a responsible attitude towards patients, the profession, and society. Included are the abilities to:
• demonstrate respect, compassion, integrity, and altruism in relationships with patients, families and colleagues;
• demonstrate sensitivity and responsiveness to the gender, age, culture, religion, sexual preference, socioeconomic status, beliefs, behaviors, and disabilities of patients and professional colleagues;
• adhere to principles of confidentiality, scientific/academic integrity, and informed consent; and
• recognize and identify deficiencies in peer performance.

6. Systems-Based Practice

Fellows should have an understanding of the contexts and systems in which health care is provided and the application of this knowledge to improve and optimize health care. Included are the abilities to:
• understand, access, and utilize the resources, providers, and systems necessary to provide optimal care;
• understand the limitations and opportunities inherent in various practice types and delivery systems and develop strategies to optimize care for the individual patient;
• apply evidence-based, cost-conscious strategies to prevention, diagnosis, and disease management; and
• collaborate with other members of the health care team to assist patients in dealing effectively with complex systems and improve systematic processes of care.

DOCUMENTATION

Documentation files include:

a) bi-monthly evaluation forms
b) documentation of procedures performed and verification of technical proficiency;
c) brief notes substantiating critical incidents, counseling sessions, patient perspectives, and feedback on residents’ skills and performance;
d) reports of mini-CEXs or other direct observations;
e) assessment of research performance, when applicable; and
f) semiannual evaluation summaries.

**TYPES OF FEEDBACK**

Both computerized and verbal feedback are provided at the end of each rotation. Summary verbal and written feedback is given every 6 months.

**The Mini-CEX:**

The mini-clinical evaluation exercise (mini-CEX) is available for attending evaluation on any service. The purposes of the mini-CEX are:

a) observing residents while they conduct a focused task in any setting;

b) rating residents on several dimensions of competence; and

c) providing residents with educational feedback

**ADDITIONAL EVALUATION METHODS**

**Simulations and Models:**

Computer-based simulations assess use of knowledge in diagnosing or treating patients or evaluating procedural skills. The Sim Suite provides comprehensive technical simulations.