

Curriculum for Clinical Cardiac Electrophysiology Training: Part II

The ACGME Core Competencies and this Curriculum

In July 2001, the Accreditation Council for Graduate Medical Education (ACGME) introduced six newly defined areas of competency which residents and fellows must attain over the course of their post-graduate training. In this portion of the Cardiac Electrophysiology Curriculum, educational program descriptions for the core activities have been reorganized around these core competencies. Methods of assessment have also been developed to more completely address the defined competencies. The six competencies are:

1. **Patient Care:** Residents are expected to provide patient care that is compassionate, appropriate and effective for the promotion of health, prevention of illness, treatment of disease and care at the end of life.
 - Gather accurate, essential information from all sources, including medical interviews, physical examination, 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 preferences.
 - Develop, negotiate and implement patient management plans.
 - Perform competently the diagnostic and therapeutic procedures considered essential to the practice of Clinical Cardiac Electrophysiology.

2. **Medical Knowledge:** Residents are expected to demonstrate knowledge of established and evolving biomedical, clinical and social sciences, and demonstrate the application of their knowledge to patient care and education of others.
 - Apply an open-minded and analytical approach to acquiring new knowledge.
 - Develop clinically applicable knowledge of the basic and clinical sciences that underlie the practice of Clinical Cardiac Electrophysiology.
 - Apply this knowledge in developing critical thinking, clinical and technical problem solving, and clinical decision-making skills.
 - Access and critically evaluate current medical information and scientific evidence and modify knowledge base accordingly.

3. **Practice-Based Learning and Improvement:** Residents are expected to be able to use scientific methods and evidence to investigate, evaluate, and improve their patient care practices.
 - Identify areas for improvement and implement strategies to improve knowledge, skills, attitudes, and processes of care.
 - Analyze and evaluate practice experiences and implement strategies to continually improve the quality of the practice of Clinical Cardiac Electrophysiology.
 - Develop and maintain a willingness to learn from errors and use errors to improve the system or processes of care.
 - Use information technology or other available methodologies to access and manage information and support patient care decisions and personal education.

4. **Interpersonal Skills and Communication:** Residents are expected to demonstrate interpersonal and communication skills that enable them to establish and maintain professional relationships with patients, families, and other members of health care teams.
 - Provide effective and professional specialist 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 and appropriate fashion.
 - Maintain comprehensive, timely, and legible medical records.

5. **Professionalism:** Residents are expected to demonstrate behaviors that reflect a commitment to continuous professional development, ethical practice, an understanding and sensitivity to diversity and a responsible attitude toward their patients, their profession, and society.

- Demonstrate respect, compassion, integrity, and altruism in their relationships with patients, families, and colleagues.
- Demonstrate sensitivity and responsiveness to patients and colleagues, including gender, age, culture, religion, sexual preference, socioeconomic status, beliefs, behaviors and disabilities.
- Adhere to principles of confidentiality, scientific/academic integrity, and informed consent.
- Recognize and identify deficiencies in peer performance.
- Develop a clear understanding of the complex and challenging relationships in Clinical Cardiac Electrophysiology between clinician/providers, hospitals and industry; understand the inherent conflicts of interest in many relationships with industry and its representatives, and develop strategies to ensure clear boundaries that are designed to uncompromisingly prioritize high quality patient care.

6. Systems-Based Practice: Residents are expected to demonstrate an understanding of the contexts and systems in which health care is provided, and demonstrate the ability to apply this knowledge to improve and optimize health care.

- Understand, access, and utilize the resources and providers 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.
- Given the high costs of many treatments, residents are expected to apply evidence-based, cost-conscious strategies to prevention, diagnosis, and treatment selection in cardiac electrophysiology.
- Collaborate with other members of the health care team to assist patients in dealing effectively with complex systems and to improve systematic processes of care.

Principal Teaching/Learning Activities

The following activities within the fellowship program provide learning and teaching opportunities for the trainee in clinical cardiac electrophysiology:

Direct Patient Care:

The collaborative relationship between attending physician and trainee in the delivery of patient care is at the core of this Program; the provision of high-quality patient care is the fundamental vehicle for teaching and learning of all the required competencies. In the development of educational objectives direct patient care is broadly and somewhat arbitrarily divided into those three loci of care where the particular skills required of the successful sub-specialist in cardiac electrophysiology differ:

- Out-Patient clinic including implantable device follow up clinic (DPC-OP*)
- Hospital, including coronary, medical and surgical intensive care units and the emergency department (DPC-H*)
- Electrophysiology Laboratory (DPC-EPL*)

Conferences:

Teaching conferences are convened at the institutional, departmental and section level and all contribute to the educational experience of the cardiac electrophysiology trainee.

- Resident/Fellow Core Curriculum Lecture Series (CCL*)
- Department of Medicine Grand Rounds (GR*)
- Department of Medicine Resident Lecture Series (RLS*)
- Department of Cardiology Didactic Lecture Series (CDL*)
- Department of Cardiology Morbidity and Mortality Conference (M&M*)
- Department of Cardiology Electrophysiology Conference (EPC*)
- Department of Cardiology and Arrhythmia Service ECG/electrogram teaching conferences (ECG*)
- Department of Cardiology and Arrhythmia Service Journal Club (JC*)
- Department of Cardiology and Arrhythmia Service Case Conference (CC*)
- Arrhythmia Service Didactic Conference (DC*)

Principal Educational Goals by Competency

In the tables below, the principal educational goals for all activities that are part of the Cardiac Electrophysiology Residency are indicated for each of the six ACGME competencies. The second column of the table indicates the most relevant principal teaching/learning activity for each goal, using the legend above(*).

Patient Care

Principal Educational Goals	Learning Activities*
Behave professionally toward towards patients, families, colleagues, and all members of the health care team	All
Recognize the substantial pressures in cardiac electrophysiology that create a potential for conflicts of interest and develop strategies for avoidance of impropriety	DPC-EPL, DPC-H, DPC-OP

Medical Knowledge

Principal Educational Goals	Learning Activities*
Interview and examine patients more skillfully	DPC-OP, DPC-H
Interpret noninvasive data more skillfully	DPC-OP, DPC-H, EPC, CC, DC
Interpret invasive data more skillfully	DPC-EPL, EPC, CC, DC
Successfully evaluate and manage implanted devices	DPC-OP, DPC-H, DPC-EPL, EPC, CC, DC
Generate and prioritize differential diagnoses	DPC-OP, DPC-H, DPC-EPL, EPC, CC, DC
Develop rational, evidence-based management strategies	DPC-OP, DPC-H, DPC-EPL, EPC, CC, DC

Practice-Based Learning and Improvement

Principal Educational Goals	Learning Activities*
Expand clinically applicable knowledge base of the basic and clinical sciences underlying the care of patients with cardiac arrhythmias in accordance with Part I of this curriculum	DPC-OP, DPC-H, DPC-EPL, GR, CDL, EPC, ECG, JC, CC, DC
Access and critically evaluate current medical information and scientific evidence relevant to care of the arrhythmia patient	EPC, ECG, JC, CC

3.5: Interpersonal Skills and Communication

Principal Educational Goals	Learning Activities*
Identify and acknowledge gaps in personal knowledge and skills in the care of arrhythmia patients	DPC-OP, DPC-H, DPC-EPL, CC, EPC, ECG
Develop and implement strategies for filling gaps in knowledge and skills	JC, CC, EPC, ECG, DC, CDL, GR

Professionalism

Principal Educational Goals	Learning Activities*
Communicate effectively with patients and families	DPC-H, DPC-OP, DPC-EPL
Communicate effectively with physician colleagues at all levels	DPC-H, DPC-OP, DPC-EPL, CCL
Communicate effectively with all non-physician members of the health care team to assure comprehensive and timely care of arrhythmia patients	DPC-H, DPC-OP, DPC-EPL
Present patient information concisely and clearly, verbally and in writing	DPC-OP, DPC-H, DPC-EPL, EPC, CC, M&M
Teach colleagues effectively	DPC-H, DPC-EPL, RLS, EPC, JC, CC

Systems-Based Practice

Principal Educational Goals	Learning Activities*
Understand and utilize the multidisciplinary resources necessary to care optimally for patients with cardiac arrhythmias	DPC-H, CCL, M&M

Collaborate with other members of the health care team to assure comprehensive patient care	DPC-H, DPC-OP
Use evidence-based, cost-conscious strategies in the care of arrhythmia patients	DPC-H, DPC-OP, DPC-EPL, CCL, GR, EPC, JC, CC, M&M