

# CLINICAL CARDIAC ELECTROPHYSIOLOGY FELLOWSHIP PROGRAMS FREQUENTLY ASKED QUESTIONS

The Residency Review Committee for Internal Medicine has answered the following questions from Clinical Cardiac Electrophysiology fellowship programs. The answers provided represent a summary of the actions previously taken by the Committee. You should not interpret the answers as a second set of standards. The RRC-IM provides these answers to give training programs insight on how the peer review process works. Each program reviewed is unique. The RRC-IM interprets substantial compliance with the Program Requirements that reflect the unique composite of a given program. The Requirements are as stated.

## **Abbreviations Used**

PR = Program Requirement  
PD = Program Director  
APD = Associate Program Director  
Sub = Internal Medicine subspecialty program  
Sub-sub = Subspecialty requiring completion of training in a parent subspecialty (i.e., clinical cardiac electrophysiology, interventional cardiology, transplant hepatology)  
RRC-IM = Residency Review Committee for Internal Medicine  
ACGME = Accreditation council of Graduate Medical Education  
DIO = Designated Institutional Official (usually serves as chair of GMCEC)  
GMCEC = Graduate Medical Education Committee, as required by the IRC  
IRC = Institutional Review Committee  
PIF = Program Information Form  
KCF = Key Clinical Faculty  
Pub = Peer-reviewed publication or other acceptable product of scholarship as defined by the RRC-IM  
CCEP = Clinical Cardiac Electrophysiology

## **Section I-VII General Subspecialty Program Requirements**

### Question:

*“Do the General Subspecialty Program Requirements apply to Clinical Cardiac Electrophysiology?”*

### Program Requirements:

For Sections I. through VIII., see:

- **ACGME Program Requirements for Fellowship Education in the Subspecialties of Internal Medicine**
- **RRC-IM Web Subspecialty FAQ**

### Answer:

Absolutely

Clinical Cardiac Electrophysiology PDs should study carefully the General Subspecialty Program Requirements, and the FAQs related to these PRs. The requirements cover required structural elements in the program such as required institutional support, facilities and resources, key faculty and PD qualifications and responsibilities, conferences, continuity clinic, scholarship and research, evaluation, etc.

Subspecialty fellowship programs are expected to be in full compliance with both the General Subspecialty Program Requirements, and the Subspecialty Specific Program Requirements.

## Unique Aspects of Clinical Cardiac Electrophysiology (CCEP) re: General Subspecialty Requirements

### 1) Fellow Scholarly Activity:

Principles:

- CCEP training requirements are designed as 12 months of intensive procedural training.
- CCEP fellows must participate in scholarly activity, but cannot be held to the same research standard as fellows in 2-year and 3-year programs where up to 50% of training may be spent in research
- Thus, CCEP fellows can meet the Scholarship Requirement by:
  - a. A research project (with faculty mentorship), or
  - b. Participation with the faculty in the initiation and conduct of clinical trials within the department, or
  - c. Participation in QA/QI or process improvement projects

### 2) Conferences

Principle: Fellows must be trained in their specialty through didactic (conferences) and bedside (“at the table”) education

- At least 1 (one) Clinical Case Conferences per week
  - a. There must be distinct CCEP case conferences.
    - i. The clinical case conferences are so sub-subspecialty specific that a separate conference series is necessary, and cannot be “shared” between cardiology, CCEP, and IC.
    - ii. Must include pathology reviews (i.e., autopsy, surgical pathology, biopsy specimens, etc.)
  - b. These must be attended by fellows and faculty in the sub-sub specialty
- At least 48 Core Curriculum Conferences per year (average 1/ week)
  - a. There must be a distinct cardiology and CCEP core curriculum conference series
    - i. The core curriculum conferences are so sub-subspecialty specific that a separate conference series is necessary, and cannot be “shared” between cardiology and CCEP.
  - b. The core curriculum is intended to be a planned course in the subspecialty that covers the major topics in the subspecialty
    - i. Include basic sciences
    - ii. Board Review lectures, or Board Review Courses “count” as core curriculum conferences
- At least 1 (one) Journal Club per month
  - a. A CCEP program may combine journal club with the parent cardiology program if:
    - i. All fellows attend the same conference at least monthly (not just when CCEP topics are discussed)
    - ii. Key faculty from the sub-subspecialty attend the same conference with the fellows
    - iii. Topics in the sub-subspecialty are discussed regularly
    - iv. CCEP fellows are exposed to and discuss both the recent and classic literature in the sub-subspecialty.
- At least 1 Research Conference per month
  - a. A CCEP program may combined research conference with the parent cardiology program if:
    - i. All fellows attend the same conference at least monthly (not just when CCEP topics are discussed)
    - ii. Key faculty and researchers in the sub-subspecialty attend the same conference with the fellows
    - iii. Topics in the sub-subspecialty are discussed regularly

### 3) **Web-Based Learning**

Principle: There are many potential advantages to e-learning venues, but two major concerns:

- What is the quality of the educational product?

- Did the learning actually take place?

- Programs may use Web-based instruction or other forms of electronic learning for some of the Core Curriculum Conferences provided the following criteria are met.
  - a. E-learning should be considered as an adjunct to Core Curriculum conferences presented by the faculty.
  - b. E-learning venues must satisfy the following criteria in order to be substituted for a traditional didactic conference:
    - i. The educational content must be reviewed and approved by the Key Faculty.
    - ii. Commercially-produced modules must be reviewed and endorsed by a professional society committed to the area under consideration, in order to assure competent and unbiased sources of educational material.
    - iii. The e-learning must be followed by a discussion (in a formal set-aside session) with key faculty in order to answer questions, provide relevance, and to demonstrate the importance of the learning venue and topic. Video-conferencing or tele-conferencing can be used for this purpose
    - iv. There must be tracking by the fellow and the program to insure that the fellow completed the prescribed module. An educational portfolio of learning, with subsequent reflection upon practice-based learning experiences, is suggested as the most appropriate measure of competency.

### 4) **Continuity Clinic**

Principle: Simply evaluating patients post-procedure for the absence of complications is inadequate follow-up/ continuity.

- a. CCEP fellows are required to have an ambulatory experience at least weekly.
- b. Fellows need to participate in the pre-hospital evaluation (indication for procedure) and the post-hospital follow-up (efficacy and outcome of the procedure).
- c. Simply evaluating all of the patients post-procedure for the absence of complications is inadequate follow-up/ continuity. The CCEP fellow should have the opportunity to see 25-50% of the patients for whom they do interventions in follow up, in order to gain experience in the long term management of the patient. In addition, they should have the opportunity to evaluate and follow patients who have been proposed as candidates for the procedure, but for whom the procedure has been determined to be contraindicated or for whom other therapies have been determined to be more appropriate.
- d. Each CCEP fellow must see 4-8 patients per week for pre-procedure evaluation and/or post-procedure follow-up in the outpatient setting
- e. The 4-8 patients per week in the ambulatory setting need not be seen in one afternoon – they may be spread out over the week.
- f. Fellows may use clinic time to obtain F/U on patients for whom they have performed a procedure and who have been returned to the care of the referring physician. The purpose of this F/U is to obtain feedback about the patient's clinical course after the procedure. Some of the F/U contact may be by telephone, but no more than 50% on average.

### 5) **Horizontal Disciplines**

Principle: Ethics, QA/QI, medical legal, end-of-life, etc. should be covered during residency and cardiology fellowship.

- It is not necessary for CCEP to have separate conferences specifically devoted to ethics, end of life issues, quality improvement, etc.
- Instead, these topics should be discussed as appropriate during the case conferences, research conference, journal club, and core curriculum conference series, as well as during case-based learning (teaching rounds, during procedure supervision, clinic, etc.).

## **Section VIII - XI Clinical Cardiac Electrophysiology Program Requirements**

### **Section VIII. Educational Program**

#### **Procedures**

Question:

*“What procedures does the program need to track for Clinical Cardiac Electrophysiology fellows?”*

Answer:

<b>CCEP Procedures that Must be Documented In Fellow’ Procedure Log</b>	
1.	Electrophysiology invasive diagnostic/interventional catheter procedures <ul style="list-style-type: none"><li>- Intracardiac procedures related to supraventricular arrhythmia</li><li>- Electrode catheter introduction</li><li>- Electrode catheter positioning in atria, ventricles, coronary sinus, His bundle area, and pulmonary artery</li><li>- Stimulating techniques to obtain conduction times and refractory periods and to initiate and terminate tachycardias</li></ul>
2.	Therapeutic catheter ablation procedures
3.	Implantation of cardioverter/defibrillators and pacemakers

#### **Extended Training**

Question:

*“We have a 2-year program that includes research. How should we structure the rotations?”*

Program Requirement:

A subspecialty educational program in clinical cardiac electrophysiology (CCEP) must function as an integral component of an accredited subspecialty fellowship in cardiovascular disease and must be organized to provide training and supervised experience at a level sufficient for the fellow to acquire the competency of a specialist in the field. (Educational Program, Definition and Scope of Clinical Cardiac Electrophysiology, Section VIII.A)

The training program must be 1 year in length. (Educational Program, Duration of Program, Section VIII.B)

Answer:

All accredited training must be completed in 12 **consecutive** months. Each month must be clinical. Fellows may participate in research, but each rotation must be primarily clinical. Training must be based at the site of the parent CV program; The RRC does not allow “stand-alone” CCEP programs. If the program has a second year, all accredited training must be completed during the accredited first year.

#### **Applicant Eligibility**

Question:

*“Can we have fellows complete their CCEP training between the second and third year of cardiology fellowship?”*

*“Can we accept IMGs without ACGME-accredited cardiology training?”*

Program Requirement:

All applicants entering CCEP must have completed a cardiovascular disease program accredited by the ACGME. (NB, For exceptions, see Program Requirements for Fellowship Education in the Subspecialties of Internal Medicine.). (Educational Program, Duration of Clinical Experience, Section VIII.C)

Answer:

- Non-sequential training (i.e., 2 years of cardiology, followed by CCEP, followed by the third year of cardiology) is not acceptable to the RRC-IM. Fellows must complete three years of cardiology prior to entering a CCEP program.

This requirement does not preclude programs from accepting up to 25% of fellows with foreign cardiology training without ACGME cardiology fellowship training. However, these fellows must have the equivalent of three years of cardiology training before entering the CCEP fellowship.

**Section IX. Faculty**

**Minimum Key Clinical Faculty**

Question:

*“What is the minimum number of ABIM-certified KCF for our program.”*

*“How many publications are required by KCF”*

Program Requirement:

See General Subspecialty FAQ for additional details and program requirement.

Answer:

See below for calculation of minimum required key clinical faculty, and the scholarly productivity expected of the KCF.

<b>CCEP KCF and Productivity</b>				
<b>2 KCF or 1:1 ratio for programs with 3 or more fellows</b>				
<b>Approved Fellow Complement</b>	<b>Minimum Certified KCF (incl PD)</b>	<b>Majority of Minimum KCF (51%)</b>	<b>PARTICIPATION KCF with at Least 1 Pub Past 3 Years</b>	<b>PRODUCTIVITY Pubs All KCF Past 3 Years (1/yr x 3 yrs)</b>
1	2	2	2	6
2	2	2	2	6
3	3	2	2	6
4	4	3	3	9
5	5	3	3	9
6	6	4	4	12
7	7	4	4	12
8	8	5	5	15

- Publication = Research publication, review article, or editorial in a peer review journal (PRJ), funded peer-review grant, or book chapter.
- Scholarly case reports acceptable (Sept 2007) if indexed in Pub Med, and copy submitted with PIF
- Peer review publication = indexed in Pub Med (or Medline). If not in Pub Med, PD must supply evidence of peer review
- In press or accepted for publication counts. Submitted or in preparation does not count.
- Abstract, illustration, letter to the editor, presentation, or publication in non-PRJ does not count.
- Peer-reviewed funding (NIH, NCI, or other government-funded or national-foundation funded) counts
- Industry, pharmaceutical, or other non-peer-review grant does not count.
  - Exception: Pharmaceutical studies in which the KCF is the overall PI (lead investigator) for all sites will be accepted as counting as one product of scholarship

- 1 paper = 1 paper; Do not count multi-author papers more than once.
- Count the last three calendar years prior to PIF submission. If site visit is in Sep. 2008, count publications from 2005, 2006, and 2007 as well as 2008.
- Contribute to participation: Only ABIM certified KCF
- Contribute to productivity:
  - Certified KCF
  - Additional sub-specialty KCF (above minimum required, certified or non-certified)
  - Non-physician faculty and faculty in other specialties IF:
    - Contribute to fellow education
    - Devote at least 10 hours/ week to the program

**Section X. Facilities and Resources**

**Continuity Clinic**

Question:

*“Please explain the continuity requirement.”*

Program Requirement:

In addition to the facilities and resources outlined in the Program Requirements for Fellowship Education in the Subspecialties of Internal Medicine, an outpatient clinic must be present at the primary training site. (Facilities and Resources, Other Facilities, Resources, and Support Services, Section X.D.2)

In addition to the facilities and resources outlined in the Program Requirements for Fellowship Education in the Subspecialties of Internal Medicine, a follow-up program to care for patients with pacemakers and implantable cardioverters/ defibrillators (ICDs) must be present at the primary training site. (Facilities and Resources, Other Facilities, Resources, and Support Services, Section X.D.3)

Answer:

CCEP are required to have an ambulatory experience at least weekly. Fellows need to participate in the pre-hospital evaluation (indication for procedure) and the post-hospital follow-up (efficacy and outcome of the procedure). Simply evaluating all of the patients post-procedure for the absence of complications is inadequate follow-up/ continuity.

The CCEP fellow should have the opportunity to see 25-50% of the patients for whom they do interventions in follow up, in order to gain experience in the long term management of the patient. In addition, they should have the opportunity to evaluate and follow patients who have been proposed as candidates for the procedure, but for whom the procedure has been determined to be contraindicated or for whom other therapies have been determined to be more appropriate.

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Fellows may use clinic time to obtain follow-up on patients for whom they have performed a procedure and who have been returned to the care of the referring physician. The purpose of this F/U is to obtain feedback about the patient's clinical course after the procedure. Some of the F/U contact may be by telephone, but no more than 50% on average.