

**Electrophysiology
RI and Miriam Hospitals**

Overview of Rotation

Revision Date: 7.1.06

I. GENERAL INFORMATION	
Name of Rotation	Electrophysiology (EP)
Director	Alfred E. Buxton, M.D.
Duration of Rotation	1 month
Location	RI Hospital and the Miriam Hospital
Administrative/Secretarial Contact & Phone	Cynthia Boland 4-5328
Location to report on first day of rotation	APC, Room 822
Resident Study/Resource Area	Cardiology fellows room, 7 th Floor APC

II. FACULTY	
	Drs Buxton, Ellison, Joventino, Kirk, and Koo

Lines of Responsibility (in order):

In all clinical in-patient rotations, cardiology fellows will interact with generalists and specialists in all areas, functioning as consultants for cardiovascular problems. This rotation comprises a consultation service and performance of certain procedures in the electrophysiology laboratory. The final responsibility for conduct of a procedure rests with the attending for that procedure. Clinical Cardiac Electrophysiology (CCEP) fellows work closely with the attending, and may supervise procedures by the general cardiology fellow on the EP rotation under the guidance of the attending Electrophysiologist for that procedure. The EP consult attending rotates weekly (at RIH) or daily (at TMH). At any time, the consult service may comprise an attending, a cardiology fellow, medical residents, and medical students. The team is led by the consult attending, who bears final responsibility for patient management or recommendations for management. The cardiology fellow is next in line, followed by medical residents and medical students, if present on the rotation. The cardiology fellow may be aided and advised by the CCEP fellows, as needed.

III. GENERAL GOALS AND EDUCATIONAL OBJECTIVES FOR THIS ROTATION

General Goals: Clinical Cardiac Electrophysiology requires an understanding of cardiac physiology, and anatomy, as well as cellular electrophysiology. A general cardiologist must be able to diagnose and treat a variety of acute and chronic arrhythmias. This requires knowledge of the safe and effective use of antiarrhythmic drugs as well as the indications for pacemaker and defibrillator implantation, radiofrequency ablation, and electrophysiology testing. In addition, fellows are taught appropriate evaluation and management of documented or suspected arrhythmias, as well as risk stratification for sudden death. The ACGME requires 2 months of clinical EP. These requirements are fulfilled during the first 2 years of the fellowship.

Objectives:

First and Second Year Core 2 Month Requirement:

Gain proficiency in the diagnosis and treatment of cardiac arrhythmias.

Understand indications and interpretation of in-hospital telemetry, Holter and transtelephonic ECG recording.

Understand indications for EP studies, and other diagnostic tests, including limitations of tests.

Understand indications for tilt table tests, including limitations, and how to perform tilt table testing.

Understand indications for temporary and permanent pacemakers, how to place temporary pacers.
 Understand indications for ICDs. Understand how to interrogate pacemakers and ICDs.
 Understand indications for cardioversion, elective and emergent, and how to perform cardioversion.
 Understand the use of pharmacologic antiarrhythmic therapy.
 Understand indications, limitations, complication of catheter ablation.
 Understand how to record a His bundle electrogram.
 Understand indications, limitations of other diagnostic techniques – signal-averaged ECG, heart rate variability.
 Gain proficiency in the interpretation of standard ECGs, including correlating standard ECGs with intracardiac recordings.
 Gain proficiency in interpreting continuous ECG recordings (including telemetry, Holter, and transtelephonic monitors).

IV. TOPICS/TEACHING METHODS/MATERIALS USED DURING THIS ROTATION

Specific topics to be covered during this rotation:
 Clinical Cardiac Electrophysiology

Principal teaching methods (see Section IX):
 Clinical teaching (A)
 Clinical experiences (B)
 Performance feedback (C)
 Conferences, lectures, and discussions (D)
 Individual or group projects (E)

Educational materials provided/referred to the resident:
 Required reading:
 Josephson, M. *Clinical Cardiac Electrophysiology*, Chapters 2,3,5

A library of more than 1,000 papers in PDF and Word formats, arranged by topic, has been compiled for fellow use on the Electrophysiology server.

V. EVALUATIONS

A. Evaluation of the resident's successful completion of the above goals will be carried out by the attending physicians, with additional input from nursing (see section IX). Assessment methods may include:
 Clinical performance ratings (1)
 Focused observation (2)
 360-degree assessment (nursing) (3A)
 Faculty/staff meetings (4)
 Procedure logs (5)
 B. Residents will evaluate the rotation annually.

VI. RESPONSIBILITY OF ATTENDINGS ON ROTATION

1. Supervise and perform procedures in the EP Lab.
2. Lead consult rounds, including formulating final recommendations and plans for patient management.
3. Teach fellows.
4. Recommend appropriate reading material for fellows.

5. Clearly communicate availability and reading schedule to fellow on a daily basis.

VII. RESPONSIBILITY OF RESIDENT ON ROTATION

1. Observe procedures in the electrophysiology lab (diagnostic EP and ablations), including cardioversions, defibrillation threshold testing, and tilt table tests.
2. Participate in selected procedures, such as obtaining venous access, or placing RV pacing catheter.
3. Primary responsibility for daily operation of the EP consult service

VIII. CONFERENCE AND CLINIC SCHEDULE SPECIFIC TO THIS ROTATION

	Monday	Tuesday	Wednesday	Thursday	Friday	
AM	7:30-8:00 EP patient conference	7:30-8:00 EP patient conference 8-9:00 – Medical Grand Rounds	7:30-8:00 EP patient conference 8:30-9:00 Introduction to electrophysiology course with Dr. Buxton	7:15-8:00 EP didactic conference 8:00-8:30 EP patient conference 8:30-9:00 Introduction to electrophysiology course with Dr. Buxton	8:00-8:30 EP patient conference 8:30-9:00 Introduction to electrophysiology course with Dr. Buxton	
PM						

IX. CORE COMPETENCIES

Competency Category	Specific Goals	EP
Medical Knowledge	Demonstration of investigatory and analytical thinking relevant to the clinical rotation	A,B,C,D -- 1,2,4
	Acquisition the appropriate background relevant to specific rotations	C -- 1,2
Patient Care	Obtains appropriate information concerning the patient (history, past medical records, examination)	B,C -- 1,2,4
	Knowledge of the appropriate indications for diagnostic and therapeutic cardiology procedures	A,B -- 1,2
	Develops sound management plans and/or recommendations to consulting services	A,B,C -- 1,2,4
	Procedures: Cardioversion	B -- 2,5
Practice-Based Learning & Improvement	Procedures: ECG, Holter	B,D -- 2
	Procedures: Right heart cath & temporary pacers	A,B,C -- 1,2,4,5
	Demonstration of self-critical thinking and motivation to improve	B,C -- 1,2,4
	Demonstration of the ability to appraise and assimilate studies in the literature ("Evidence-based medicine")	A,B -- 1,2
Professionalism	Commitment to professional responsibilities and ethics	B,C -- 1,2,4
	Commitment to ongoing professional development	B,C -- 1,2,4

Interpersonal &
Communication

Commitment to developing effective relationships with
referring clinicians, hospital services, and colleagues

A,B,C -- 1,2,4

ADDITIONAL INFORMATION: