CLINICAL CARDIAC ELECTROPHYSIOLOGY SERVICE ROTATION

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A. OBJECTIVES

1. Evaluate and treat patients with cardiac arrhythmias with focus on VT, VF, sudden death risk assessment, atrial fibrillation, SVT, and device therapies (ICD/PPM).
2. Understand indications, limitations, and complications of temporary and permanent cardiac pacing.
4. Understand ability of EPS to predict/detect clinical arrhythmias, and be able to interpret basic EP Studies.
5. Understand anatomy/physiology of normal and diseased cardiac conduction system.
6. Understanding/interpret all scalar modalities including ECG, DCG’s (Holter monitors), and signal averaged ECG’s.
7. Understand the mechanism, use, and toxicology of antiarrhythmic drugs.
8. Understand the indication for and interpretation of tilt table testing.
9. Understand the indications, risks, and methods of cardioversion.
10. Understand the results and implications of major clinical arrhythmia and pacing trials.

B. TEACHING STRATEGIES

1. The CCEP teaching service consists of one or more CCEP teaching attendings, one or more CCEP clinical fellows and a dedicated EP fellow.
2. Formal teaching activities are provided by the CCEP teaching faculty on a daily basis, as outlined in Section D below.
3. CCEP teaching strategies are focused on four general areas:
   a. evaluation and treatment of inpatients with a variety of electrophysiological problems
   b. evaluation and treatment of outpatients with a variety of electrophysiological problems
3. Supervise inpatient electrophysiology consultations. No more than 4 patients will be assigned on a daily basis, and patients assigned to the fellow will be selected for their educational value. Responsibilities to see inpatient consults will be superseded by responsibilities to attend conferences and outpatient clinic.

D. FELLOW RESPONSIBILITIES

All patients referred for electrophysiological consultation are eligible for evaluation by the fellow(s). Such patients include, but are not limited to, those with simple and complex cardiac dysrhythmia; syncope; and disorders requiring invasive EPS, pacemaker or ablation.

Specific Responsibilities:

PATIENT CARE

1. Gather information from the patient and appropriate medical records, including outside medical information, in order to write a comprehensive history and physical and an assessment and treatment plan.
2. Effectively counsel the patient and family in the proposed care plans.
3. Describe and justify in detail the differential diagnosis based on the gathered information, including information that is important but lacking and how this information could affect the patient care plan.

4. Search and provide the relevant literature to support the differential diagnoses.

5. Delineate and interpret the appropriate testing used to confirm or refine the diagnosis.

6. Describe the necessary tools needed to perform any invasive procedure including the strategy used during the procedure if indicated.

7. Describe the potential complications for any contemplated procedure including the plans to minimize possible complications.

8. Describe and substantiate the care plan for the patient irrespective of whether or not a procedure is performed.

MEDICAL KNOWLEDGE

1. Demonstrate a sound and comprehensive understanding of the mechanisms of arrhythmias in part aided by interpreting ECGs, the electrograms acquired during procedures, selecting, performing and interpreting pacing maneuvers during electrophysiology studies.

2. Dictate complete reports with all the pertinent information.

3. Perform the implantation of all devices and describe the techniques for venous access, lead placement, interpret fluoroscopic anatomy.

4. Perform device programming and testing.

5. Perform literature reviews on case related topics and present them during clinical case conferences.

6. Interpret electrograms or interrogated device data outside of the procedure.

7. Perform the acquisition of data points on both Electroanatomic mapping systems and interpret maps as they relate to the ablation strategies.

8. Manipulation of all diagnostic and therapeutic catheters in all four chambers of the heart.

9. Describe all the relevant cardiac anatomy as it relates to invasive procedures.

10. Acquiring a satisfactory knowledge of and applying the treatment guidelines to patient care.

PRACTICE-BASED LEARNING

1. Review selected patient cases from first encounter until completion and identify a key aspect of the evaluation that could have been improved. Review the published literature and guidelines and develop a practical plan to perform subsequent evaluations.

2. Based on prior experience in the lab, describe in a written plan the strategy for the next case including catheter choice and placement, the
reason for and sequence of protocols used in the EP/Ablation procedure.
3. Teach the general cardiology fellows rational approaches to ECG interpretation regarding rhythm diagnosis and management based on experience gained from the electrophysiologic evaluation.
4. Present in the Section Quality and Outcome conferences to demonstrate how your practice assimilates practice guidelines and scientific knowledge into better patient care in our institution.
5. Attend all required weekly conferences.

INTERPERSONAL & COMMUNICATION SKILLS
1. Write/dictate clear and complete histories and physical examinations.
2. Dictate comprehensive procedure notes.
3. Review the prior days’ cases with the staff in the 8 AM patient conference.
4. Inform and describe the plans for upcoming procedures to the EP lab staff.
5. Educate and counsel the patient and family.
6. Educate and inform the referring in-house teams of the results of the study or consultation.
7. Obtain informed consent when needed and describe the procedure and risks and benefits thereby demonstrating a sound knowledge of the overall treatment plan in the mind of the fellow.

SYSTEMS-BASED PRACTICE
1. Design and implement on a routine basis cost-effective care plans based on the knowledge of best practices by reviewing published guidelines and current literature.
2. Discuss and integrate insurance reimbursement information into the patient’s outpatient and inpatient care to allow for an overall cost-effective care plan.
3. Plan procedural strategies that appropriately utilize hospital expenditures and ensure the efficiency in the delivery of patient care.
4. Understand and follow hospital policy as dictated by regulatory agencies such as CMS and JCAHO.
5. Track the effects of care plan strategies on workflow into and out of the EP lab so as to understand the importance of communication in the planning and delivery of care as it involves the EP lab staff, coordinators, ancillary services such as anesthesia and clinic personnel by reviewing quarterly statistics for the EP lab.

PROFESSIONALISM
1. Interact with colleagues in the hospital (fellow physicians, nurses, residents and students, ancillary staff) in conversation in a respectful
professional manner being cognizant of gender, ethnic differences and
disabilities.
2. Understand and put into practice with patients and staff the training
received on diversity.
3. Practice ethical behavior at all times.
4. Practice punctuality and exhibit responsibility by taking ownership of
assigned tasks and patient care such as making sure timely orders and
dictations are performed.
5. Dress appropriately when in the patient care facilities.
6. Abide by rules of patient confidentiality at all times.

E. EVALUATIONS

1. Each fellow is to be evaluated on a monthly basis at the end of the EP
rotation, as follows (360° Evaluation):
   a. A formal evaluation will be completed by the EP attending(s), using
      New Innovations and the content of the evaluation will be reviewed
      verbally with the fellow. **Any negative evaluations must be
discussed face to face with the fellow and the Program
Director must be notified.** A monthly evaluation will also be
      completed by the Nursing manager on the EP Service.

1. At the end of the rotation, the EP fellow(s) will evaluate the EP
attending using New Innovations. This evaluation will be reviewed on
semi-annually basis with the Program Director and Chief of Cardiology.