I. Mission Statement

To achieve excellence in the training of Electrophysiology Fellows in the diagnosis and management of arrhythmic disorders and symptoms, including noninvasive and invasive diagnostic and therapeutic modalities, pacemaker implantation and follow-up, and ICD implantation and follow-up.

II. Program Objectives

To fully learn the indications, contraindications, risks, limitations, sensitivity, specificity, predictive accuracy, and appropriate techniques for the evaluation of patients with a wide variety of rhythm disorders including:

1. Sinus node dysfunctions
2. AV and intra-ventricular block
3. Supra-ventricular arrhythmias
4. Ventricular arrhythmias
5. Clinical conditions including unexplained syncope, aborted sudden death palpitations, WPW syndrome, Long QT syndrome
6. Conditions leading to non-pharmacologic modalities of arrhythmia therapy (e.g. ablation, ICD implantation, surgery).

The content will be gained during educational conferences and teaching rounds, outpatient longitudinal clinic experience, outpatient/inpatient consultations, pacemaker clinic, ICD clinic, care of patients before, during and after electrophysiologic studies, preoperative and postoperative arrhythmia management, and by the performance and analysis of noninvasive and invasive tests, including electrophysiologic studies, electrocardiography, therapeutic electrophysiologic procedures, pacemaker implantation, defibrillator implantation, and arrhythmia surgery. By the time of completion of training, the fellow will be expected to have become highly proficient in all aspects of clinical cardiac electrophysiology. In addition, the fellow will formulate a research hypothesis and design and perform a research project to test all hypotheses.

The Electrophysiology fellow will spend a minimum of twelve months rotating on the Arrhythmia Services of the Mid America Heart Institute. This time will be distributed among well-defined experiences in a number of specific settings listed below, which are designed to assure that all the educational objectives are met:
1. **Electrophysiology Laboratory**

The electrophysiology lab experience will result in mastery of the accepted indications for invasive EP procedures, techniques, pre and postoperative management, and all the technical aspects of diagnostic and therapeutic procedure in-patients with cardiac arrhythmias. It will be assured that there is a sufficient range of patients with major disorders including sinus node dysfunction, AV and intra-ventricular block, supra-ventricular and ventricular arrhythmias, WPW syndrome, unexplained syncope, sustained ventricular tachycardia and aborted techniques of venous and arterial catheterization, catheter placement, the evaluation of complex electrophysiologic phenomenon, paced induction and termination and defibrillation of tachycardia, the recording and interpretation of catheter signals during ablation, stimulation of the heart and interpretation of the effects of stimulation, direct observation of the electrophysiologic effects of antiarrhythmic agents, and effective and safe performance of catheter ablation.

2. **Inpatient and Outpatient Consultations**

The fellow will attain mastery of arrhythmia consultations on patients with the entire spectrum of arrhythmic disorders. The setting in which consultations will be performed include the CCU, SICU, MICU, inpatient wards, outpatient clinics and emergency room.

3. **Intensive Care Units**

The fellow will acquire the skills of arrhythmia management in the ICU setting by actively participating in the care of critically ill patients having recurrent arrhythmias. This will include the proper use of antiarrhythmic agents, pacing, defibrillation, cardiopulmonary resuscitation, and evaluation for ischemia and arrhythmias ablation.

4. **ICD Implantation**

The fellow will achieve expertise in the evaluation of patients for ICP implantation, implantation of non-thoracotomy ICD systems, defibrillation threshold testing, and anti-tachycardia pacing testing and low energy cardioversion testing. The fellow will master the indications for ICS placement and postoperative management.

5. **ICD Clinic**

The fellow will fully master all the techniques of outpatient management of patient with implanted arrhythmia devices including device interpretation and reprogramming, interpretation of delivered therapies, interpretation of stored intra-cardiac electrogram and determination of the indications for device replacement.
6. **Pacemaker Implantation**

The fellow will learn the techniques and become fully skilled in permanent pacemaker prescription, implantation, and intra-operative testing and postoperative management.

7. **Pacemaker Clinic**

The fellow will fully master all the techniques of pacemaker follow-up, re-programming, indications for device replacement and evaluation of detective leads.

8. **Longitudinal Outpatient Clinic**

The fellow will acquire mastery of the initial evaluation and longitudinal follow-up of patients with arrhythmias symptoms and diagnosis. This will include assessing patients for the efficacy and side effects of chronic drug or device therapy, and the diagnosis and management of concomitant conditions, which might exacerbate arrhythmias. In addition, the fellow will master the outpatient evaluation of patients referred for arrhythmia consultation.

9. **Education Conferences**

The fellow will attend conferences to compliment their patient care educational activities. These include Journal Club, case conferences, ECG conferences, research conferences, didactic lectures, CV Grand Rounds and clinical electrophysiology teaching rounds.

10. **Research Experience**

The fellow will participate in research pertaining to clinical or basic electrophysiology. A meaningful experience will include discussion of hypothesis and study design, data acquisition, data analysis and submitting the study for peer review.