



Mahidol University

Pediatric Cardiac Electrophysiology Fellowship Training

Division of Pediatric Cardiology, Department of Pediatrics

Faculty of Medicine Siriraj Hospital

Mahidol University

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Department of Pediatrics, Faculty of Medicine Siriraj Hospital,
Mahidol University

1. Program:

Pediatric Cardiac Electrophysiology Fellowship Training

2. Credentials:

Certificate of Pediatric Cardiac Electrophysiology Fellowship

3. Awarding Body

3.1 Division of Pediatric Cardiology, Department of Pediatrics

3.2 Faculty of Medicine Siriraj Hospital

4. Duration of Training

1 year, from July 1st of the academic year to June 30th of the following year

5. Faculties

1. Supaluck Kanjanauthai M.D., CCDS, CEPS-PC.
Diplomate of the American Board of Pediatrics
Diplomate of the American Subboard of Pediatric Cardiology
Diplomate of the American Board of Adult Congenital Heart Disease
Fellowship in Pediatric Cardiac Electrophysiology
IBHRE Certified Cardiac Device Specialist
IBHRE Certified Electrophysiology Specialist
2. Jarupim Soongswang M.D.
Diploma of the Thai Subspecialty Board of Pediatric Cardiology
Certificate in Pediatric Cardiology
Certificate in Interventional Cardiology and Cardiac Electrophysiology
3. Satchana Pumpreug M.D.
Diploma of the Thai Subspecialty Board of Cardiology
Certificate Fellowship in Clinical Cardiac Electrophysiology
4. Warangkna Boonyapisit M.D.
Diploma of the Thai Subspecialty Board of Cardiology
Certificate Fellowship in Clinical Cardiac Electrophysiology
5. Arisara Suwanagool M.D.
Diploma of the Thai Subspecialty Board of Cardiology
Certificate Fellowship in Clinical Cardiac Electrophysiology
6. Arjbordin Winijkul M.D.

Diploma of the Thai Subspecialty Board of Cardiology

6. Admission Requirements

Applicant must complete and be certified for pediatric cardiology training

7. Number of training position:

1 position per year

8. Program aims and objectives

The goal of the training is to enable the pediatric Electrophysiologist to meet with this core competencies

1. Management of all types of cardiac arrhythmias in all ages from the fetus to young adult
2. Evaluation and management of patients with specific arrhythmia syndromes including long QT syndrome, Brugada syndrome, and right ventricular dysplasia
3. Evaluation of patients with family history of sudden cardiac death
4. Management of complex arrhythmias, especially in postoperative congenital heart disease patients
5. Evaluation of patient with syncope including, when appropriate, performance of tilt table testing with appropriate interpretation and management of patient
6. Performance of transesophageal EPS
7. Knowledge of the indications, risks, and benefits of EPS/catheter ablation
8. Interpretation and use of EPS data
9. Technical and cognitive skills to perform EPS/catheter ablation, using current mapping technology and techniques
10. Advanced knowledge of selection of pacemaker type, programming, follow-up, and trouble-shooting
11. Advanced knowledge of pacemakers and implantable Cardioverter-defibrillators
12. Intraoperative evaluation and programming of pacemakers and ICDs

9. Program Overview

Pediatric Electrophysiology (EP) Fellowship Training Program at Pediatric cardiology division, Department of Pediatrics is a newly established program to provide advanced-level training in pediatric cardiac electrophysiology to graduates of general pediatric cardiology fellowship training program. In accordance with the 2005 American Heart Association guidelines for fellowship training, the duration of training at least 1 year period. Our institution is collaborating with EP colleagues at Chulalongkorn memorial hospital to enhance EP knowledge and experiences for our trainee.

9.1 Pediatric Electrophysiology Consultation

Expose to various type arrhythmia patients both in and out-pt settings

9.2 Non-invasive electrophysiology

9.2.1 Interpretation of tests including EKG, Holter monitoring, Exercise stress testing, Tilt table test and Genetic testing

9.2.2 Perform cardiac device check and interpret

9.2.3 Perform cardiac device programming

9.2.4 Perform temporary pacemaker check and programming

9.3 Invasive electrophysiology

9.3.1 Perform Electrophysiology and ablation

9.3.2 Perform cardiac device implantation

9.3.3 Perform lead extraction

9.3.4 Perform placement of temporary pacemaker

9.3.5 Perform synchronized cardioversion or defibrillation

9.3 Teaching and collaboration

Teach and work with pediatric cardiology fellows

10. Training and learning experiences methods

10.1 Scope of the training

In order to develop the trainee's clinical skills in pediatric EP, the following methods and interactions will be applied by the program:

- Regular involvement in pediatric electrophysiology procedures throughout the year of training, involving radiofrequency ablation, cryoablation, and pacemaker/ ICD implantations in both institutions.
- Performance of in-patient consultation in pediatric EP to provide management of arrhythmia problems in pediatric patients and adult congenital patients.
- 2-4 months of participation in adult EP procedures at Siriraj Hospital to supplement pacemaker/ICD implant experiences.
- Involvement in pediatric arrhythmia clinic and pacemaker clinic to develop out-patient management skills.

Pediatric EP fellow will have clinical duties and responsibilities of receiving the first call for all pediatric EP concerns. Pediatric EP fellow will have the opportunity to assess the patients and formulate a plan to develop their skills while working with pediatric EP attendings. The trainee's performance will be supervised by regular oral evaluations and written evaluations monthly. In addition, the portfolio will be used to track the trainee's progress over the period of training.

10.2 Practical Experiences

The program minimum requirement experience during training

Training time : 12 months

<u>Experiences requirements</u>		<u>Minimum</u>
ECG interpretation	750	
Ambulatory ECG interpretation	50	
Exercise ECG		20
Tilt table tests		Optional
Transesophageal EPS/temporary postoperative epicardial wire study	5	
Total Intracardiac EPS	50	
Intracardiac EPS 18 years of age or less	40	
Intracardiac EPS in repaired congenital heart disease	10	
Total Catheter ablation	50	
Catheter ablation 18 years of age of age or less	40	
Catheter ablation in repaired congenital heart disease	10	
DC cardioversion	5	
Pacemaker/ICD		
Evaluations/follow-up	50	
Intraoperative evaluation pacemakers and devices	5 #	
Implants of cardiac devices in EP/cath lab	20*	

(Pacemaker 9-10, 0-1 ICDs)

* (15 in ages 18 yrs. or less)

10.3 Research/Education

The EP fellow will need to have advanced EP research competence skills:

1. Evaluation of EP literature.
2. Development of clinical research skills.
3. Completion of EP research project(s) which results in presentation an abstract at the national meeting and submission of manuscript to peer-reviewed journal.
4. Grant submission is encouraged.

10.4 Didactic sessions and conferences:

Educational activities will include the following:

- Regular weekly EP and EKG conference.
- Regular monthly pediatric EKG conference.
- Monthly journal club
- Weekly meeting for EP intracardiac tracing and electrocardiogram interpretation.
- Monthly lecture of pediatric EP topics
- Recommended reading list of pertinent articles and reference textbooks

11. Assessments

EVALUATION AND DOCUMENTATION OF COMPETENCE

The program director is expected to maintain adequate records of each individual's training experiences and performance of various procedures for appropriate documentation. The trainees should maintain records of participation in provided portfolio containing clinical information, procedure performed including procedure log book, and outcomes, listing any complications encountered. Finally, formal written evaluations should occur at least every three months using standard Entrustable professional activities (EPA). The fellow will develop skills in implantation of pacemakers and ICDs, including extraction.

At the end of training, the fellow is expected to **pass international board of Heart Rhythm Examiners (IBHRE) Certification or equivalent exam.**

12. Program Facilities

- Electrophysiology labs
- Non-invasive cardiology
- Conference room, lecture room -
Audio/visual equipment
- Mahidol University Library
- Faculty Library including electronic resources and database provided by Faculty of Medicine
Siriraj Hospital, Mahidol University -
Department library

- Supporting staffs

13. Language: English

14. Registration fee: Waived

Program Demographics

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Program director : Supaluck Kanjanauthai MD, CCDS, CEPS-PC

Pediatric Cardiology Division

Pediatric Department, Siriraj Hospital

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