

## TRAINING STATEMENT

# 2015 SPCTPD/ACC/AAP/AHA Training Guidelines for Pediatric Cardiology Fellowship Programs (Revision of the 2005 Training Guidelines for Pediatric Cardiology Fellowship Programs): Introduction



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Since the 2005 publication of the first “Training Guidelines for Pediatric Cardiology Fellowship Programs” (1), the field of pediatric cardiology has undergone significant growth and change, and thus, the Society of Pediatric Cardiology Training Program Directors (SPCTPD) in conjunction with the Joint Council of Congenital Heart Disease recommended the guidelines be revised accordingly. The SPCTPD board assembled a Steering Committee that nominated 2 chairs for each of the 8 Task Forces (7 as in the original document plus 1 for “advanced medical therapies,” [i.e., heart failure, pulmonary

hypertension, and cardiac transplantation]). Six to 8 members were selected from a list of potential committee members representing a wide range of program sizes, geographic regions, and subspecialty focuses. Representatives from the American College of Cardiology, American Academy of Pediatrics, and American Heart Association participated. These participants, along with 1 Steering Committee member, comprised each Task Force. A Steering Committee member was added to provide perspective to each Task Force as a “nonexpert” in that field.

The authors developed the Task Force reports under guidance from the Task Force chairs, approved them for review by individuals selected by the participating organizations, and addressed the 258 comments submitted. The peer reviewers for each report are listed in an appendix in each Task Force report along with their employment information and affiliation in the review process. The final, complete document was approved by the Society of Pediatric Cardiology Training Program Directors, American Academy of Pediatrics, and the American Heart Association in February 2015 and by the American College of Cardiology in March 2015, and individual Task Force reports were endorsed by the organizations noted in each report.

During the process of updating the guidelines, a paradigm shift in medical education occurred. The change to **competency-based training** now requires trainees to achieve an expected level of competency

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in defined tasks (clinical and academic) rather than simply spending a predefined amount of time on a subspecialty service or performing a certain number of procedures to be considered fully “trained.” The Task Forces were instead asked to outline the minimum amount of time or number of procedures required so that evaluators can make informed decisions on whether the fellow is competent, and if not, recommend further work in that area. The responsibility will be on the training programs to observe fellows in all aspects of their training and have the newly developed clinical competency committees review their performance and evaluations, and provide feedback on their degree of competency.

The American Board of Pediatrics, the certifying agency of graduating fellows, has directed that the concept of entrustable professional activities (EPAs) be utilized as a framework to identify and evaluate a trainee’s ability to independently practice the fundamental professional work that defines our discipline. EPAs are observable and measurable and can be mapped to competencies and milestones across the entire landscape of physician activities from medical school throughout a career of practice. Being entrusted to move on through the fellowship program and to graduate will be determined by fellowship clinical competency committees, the scholastic oversight committees, and the program directors and will serve as the basis for determining board eligibility in the subspecialty.

For each EPA, there are 5 levels of entrustment, which for this document have been modified as follows (2):

Level 1: The fellow has baseline knowledge and skills but is not allowed to perform the EPA independently.

Level 2: The fellow may act under proactive, ongoing, full supervision.

Level 3: The fellow may act under reactive supervision (i.e., the supervisor observes and only participates on request or when the supervisor feels he or she is needed).

Level 4: The fellow may act independently upon graduation.

Level 5: The graduate may act as a supervisor and instructor.

The Accreditation Council of Graduate Medical Education (ACGME) and American Board of Pediatrics (ABP) have worked closely in an effort to identify EPAs that pertain to all pediatric subspecialties, including cardiology. At this time, they have suggested that the following common activities should be achieved by all graduating fellows:

1. Provide for and obtain consultation from other healthcare providers caring for children (see Task Force 1: General Cardiology).

2. Apply public health principles and improvement methodology to improve care for populations, communities, and systems.
3. Lead and work within interprofessional healthcare teams.
4. Facilitate handovers to another healthcare provider including the transition from pediatric to adult health care (see Task Force 6: Adult Congenital Heart Disease).
5. Contribute to the fiscally sound and ethical management of a practice (through billing, scheduling, coding, and record-keeping practices).
6. Engage in scholarly activities through the discovery, application, and dissemination of new knowledge (see Task Force 8: Research).
7. Lead within the subspecialty profession.

Additional EPAs specific for pediatric cardiology delineated by this training statement are:

8. Diagnose and manage congenital or acquired cardiac problems (see Task Force 1: General Cardiology and Task Force 6: Adult Congenital Heart Disease).
9. Diagnose and manage patients with acute congenital or acquired cardiac problems requiring critical care (see Task Force 5: Critical Care Cardiology).
10. Care for patients who require catheter-based intervention (see Task Force 3: Cardiac Catheterization).
11. Diagnose and manage patients with arrhythmias and conduction abnormalities (see Task Force 4: Electrophysiology).
12. Acquire the imaging skills required for all aspects of pediatric cardiology care (see Task Force 2: Noninvasive Cardiac Imaging).
13. Diagnose, initially manage, and refer children with advanced or end-stage heart failure and/or pulmonary hypertension to experts for medical therapy, extracorporeal membrane oxygenation, ventricular assist device, and/or cardiac transplantation (see Task Force 7: Pulmonary Hypertension, Advanced Heart Failure, and Transplantation).

The curricula for these EPAs are delineated for general pediatric cardiology training as well as for all of the subspecialties in the field. Within each Task Force report, the fellow teaching and evaluation process should be designed to foster progression from having basic knowledge and skills (Level 1) to being able to capably perform the particular set of activities independently (Level 4). This will be achieved by using the suggested evaluation tools to grade the specific milestones that describe the levels of ability, and range from novice to expert. All trainees must acquire Level 4 expertise, the ability to act independently, in the core curriculum by the conclusion of the standard pediatric cardiology fellowship program.

**TABLE 1 Core Curricular Competencies and Evaluation Tools Relevant to All Pediatric Cardiology Training****Medical Knowledge** (see individual task forces for details)**Patient Care and Procedural Skills** (see individual task forces for details)**Systems-Based Practice**

- Coordinate patient care among healthcare providers, including transfer and transition of care.
- Lead a quality improvement project.

*Evaluation Tools: conference participation and presentation, direct observation, faculty evaluations, and 360 evaluations***Practice-Based Learning and Improvement**

- Participate in activities that promote evidence-based learning such as journal clubs and literature reviews.
- Utilize individual learning plans to review previous goals and objectives and plans for the next 3 to 6 months.

*Evaluation Tools: meeting with mentors, review by clinical competency committee, and reflection and self-assessment***Professionalism**

- Practice within the scope of expertise and technical skills.
- Demonstrate a high rate of attendance at fellow conferences.
- Complete procedure logs, duty hour logs, and faculty evaluations in a timely manner.

*Evaluation Tools: conference participation and presentation, direct observation, faculty evaluations, and 360 evaluations***Interpersonal and Communication Skills**

- Function as an effective communicator within a multidisciplinary team.
- Engage in shared decision making with patients and their families, including options for diagnosis and treatment.
- Participate in end-of-life patient care plans.

*Evaluation Tools: direct observation, faculty evaluations, and 360 evaluations*

Lifelong learning skills must then be fostered so that growth continues after successful completion of formal training. Fellows are not expected to reach Level 5 expertise, the competency to act as a supervisor or instructor, for EPAs upon graduation, but they will continue to strive toward Level 5 expertise throughout their career, particularly in their areas of interest. Training programs will be responsible for attesting to the certifying boards and the public that trainees have these capabilities and skills.

The format of these revisions conforms to the original version, in which core training concentrates on what is expected of fellows going through the standard 3 years of fellowship training in an ACGME-accredited institution. This is followed by an outline of advanced training that delineates what is entailed for a fellow who continues training beyond the 3 years to obtain subspecialty expertise. Some subspecialties have documented advanced training elsewhere, and some have developed examinations for graduates. There are no such examinations provided by the ABP for advanced certification in pediatric cardiology training, although the ABP does sanction the American Board of Internal Medicine examination in adult congenital heart disease for qualified pediatric cardiology graduates who complete the requisite adult cardiology training.

As in residency training, fellows are required to be proficient in the 6 core competency domains delineated by the ACGME in each of the pediatric cardiology subspecialties (3). The differences between residency and fellowship are most evident in the medical knowledge and the patient care and procedural skills components that are the main foci of each Task Force report. The additional 4 ACGME competency domains—systems-based practice, practice-based learning and

improvement, professionalism, and interpersonal and communication skills—are also important to pediatric cardiology training and are highlighted in all areas of **Table 1**. All competencies are accompanied by a list of evaluation tools suitable for assessment of competence.

Many Task Forces discuss participation in the quality improvement process as trainees rotate on the particular subspecialty service. The expectation is that the fellows participate by attending quality assurance meetings and mortality and morbidity conferences, but they need only initiate 1 quality improvement project during their core training that they see to completion in any area of pediatric or adult/congenital cardiology.

The curriculum outlined by each Task Force and the milestones listed delineate the knowledge and skills that each fellow should achieve by completion of the 3 years of core fellowship training. Careful monitoring and mentoring of each fellow along the way should ensure that these goals are achieved. This process should culminate in a senior fellow demonstrating confidence in the ability to care for all varieties of patients encountered in the field of pediatric cardiology and strong progress in the particular subspecialty area of interest. This frequently is tested by having an “Acting Attending” month toward the end of the fellowship, where fellows lead the inpatient service and the teaching of residents and junior fellows under the watchful eye of the faculty, who are there for support and consultation.

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**KEY WORDS** SPCTPD/ACC/AAP/AHA Training Statement, clinical competence, fellowship training, pediatric cardiology, quality improvement

**APPENDIX 1. AUTHOR RELATIONSHIPS WITH INDUSTRY AND OTHER ENTITIES (RELEVANT)—2015 SPCTPD/ACC/AAP/AHA TRAINING GUIDELINES FOR PEDIATRIC CARDIOLOGY FELLOWSHIP PROGRAMS: INTRODUCTION**

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For the purpose of developing a general cardiology training statement, the American College of Cardiology (ACC) determined that no relationships with industry (RWI) or other entities were relevant. This table reflects authors' employment and reporting categories. To ensure complete transparency, authors' comprehensive healthcare-related disclosure information—including RWI not pertinent to this document—is available in an [online data supplement](http://www.acc.org/guidelines/about-guidelines-and-clinical-documents/relationships-with-industry-policy). Please refer to <http://www.acc.org/guidelines/about-guidelines-and-clinical-documents/relationships-with-industry-policy> for definitions of disclosure categories, relevance, or additional information about the ACC Disclosure Policy for Writing Committees.

## APPENDIX 2. PEER REVIEWER RELATIONSHIPS WITH INDUSTRY AND OTHER ENTITIES (RELEVANT)— 2015 SPCTPD/ACC/AAP/AHA TRAINING GUIDELINES FOR PEDIATRIC CARDIOLOGY FELLOWSHIP PROGRAMS: INTRODUCTION

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For the purpose of developing a general cardiology training statement, the ACC determined that no relationships with industry or other entities were relevant. This table reflects peer reviewers' employment, representation in the review process, as well as reporting categories. Names are listed in alphabetical order within each category of review. Please refer to <http://www.acc.org/guidelines/about-guidelines-and-clinical-documents/relationships-with-industry-policy> for definitions of disclosure categories, relevance, or additional information about the ACC Disclosure Policy for Writing Committees.

AAP indicates American Academy of Pediatrics; ACC, American College of Cardiology; ACPC, Adult Congenital and Pediatric Cardiology; AHA, American Heart Association; and CMC, Competency Management Committee.