Congenital Cardiac Anesthesia Society

Task Force for Standardization of the Pediatric Cardiac Anesthesiology Fellowship

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Boston Children's Hospital

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Anesthesiologist-In-Chief
Texas Children's Hospital

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Children's National Hospital

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Boston Children's Hospital

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Children's Healthcare of Atlanta

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Children's Hospital of Philadelphia

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Director of Pediatric Cardiac Anesthesia
UT Southwestern - Children's Medical Center Dallas

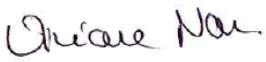
Thomas J. Nasca, MD, MACP
President and Chief Executive Officer, ACGME and President and Chief Executive
Officer of ACGME International ACGME - Suite 2000
401 North Michigan Avenue
Chicago, IL 60611

I am writing to you on behalf on the Congenital Cardiac Anesthesia Society Executive Board, the Society for Pediatric Anesthesia Graduate Medical Education Task Force and the Pediatric Cardiac Anesthesia Fellowship Standardization Task Force to ask you, on behalf of the Accreditation Council for Graduate Medical Education (ACGME), to accredit the sub-subspecialty of pediatric cardiac anesthesiology. This proposal is based on the ACGME Document, Structure and Function, Page 64, Section 11.20: *Criteria for Designation of a Subspecialty or Sub-Subspecialty for which Accreditation will be Offered*. Effective 3/12/2020.

This proposal provides evidence that the sub-subspecialty of pediatric cardiac anesthesiology will improve the clinical care and safety of patients through accreditation of training in this discipline. Specifically, this proposal provides documentation on the professional and scientific status of the sub sub-specialty of pediatric cardiac anesthesiology.

The proposal is supported by a number of professional societies including the Society for Pediatric Anesthesia (SPA), American Association for Thoracic Surgery (AATS), Pediatric Anesthesia Leadership Council (PALC), Pediatric Cardiac Intensive Care Society (PCICS), and Society of Cardiovascular Anesthesia (SCA).

Thank you for considering.
Respectfully,



Viviane G. Nasr, MD
Associate Professor, Harvard Medical School
Boston Children's Hospital
Department of Anesthesiology, Critical Care and Pain Medicine
Division of Cardiac Anesthesia

Introduction:

Pediatric cardiac anesthesiology has developed as a sub-subspecialty of anesthesiology over the past 50 years. It has been practiced since the first patent ductus arteriosus was ligated by the cardiac surgeon Dr. Robert Gross in 1938. Initially, in the 1970s and 1980s, anesthesiologists interested in practicing pediatric cardiac anesthesia would spend additional months during residency training or as a staff member gaining experience in anesthesia care for these patients. With further advances in surgical and catheter-based interventions and technologies in patients with congenital heart disease (CHD), pediatric cardiac anesthesiology has evolved in parallel with pediatric cardiac surgery and pediatric cardiology as a distinct field. The evolution of this specialty has led to the establishment in 2005 of a dedicated professional society, the Congenital Cardiac Anesthesia Society (CCAS). In addition to the CCAS educational offerings, a body of educational material unique to the field, in the form of major textbooks, sections of major textbooks, and web-based assets has emerged. Every major anesthesiology journal now has a section devoted to pediatric cardiac anesthesiology and research unique to the field is also published in major cardiology and cardiac surgery journals.

In 2010, leaders in pediatric cardiac anesthesiology recognized the need for a standardized educational approach to training of pediatric cardiac anesthesiologists and accordingly program guidelines were developed.[1] In 2014, the Pediatric Anesthesia Leadership Council (PALC) in conjunction with the CCAS recognized the need for a formalized training pathway.[2] They specifically recommended that pediatric cardiac anesthesiology be a second-year advanced fellowship following pediatric anesthesia, and consisting of 12 additional months of training in pediatric cardiac anesthesiology. This recommendation clearly recognizes that attaining skills to become a competent pediatric cardiac anesthesiologist requires training beyond a standard pediatric anesthesia fellowship. In 2018, specific training milestones required during fellowship training were established by the CCAS leadership.[3]

Presently, 19 non-accredited fellowships are available in pediatric cardiac anesthesia. While the structure of these fellowship programs mostly follows the published guidelines noted above, it is acknowledged by CCAS leadership and individual program directors that there is no central oversight of program quality and that there is substantial variability in the educational structure of programs. We believe that in order to move the subspecialty forward at a pace comparable to our colleagues in cardiology and cardiac surgery, it is essential that a more centralized, standardized approach to fellowship training be established.

Formalizing the training with ACGME accreditation is the obvious next step in maturation of the subspecialty and in ensuring high-quality care for CHD patients. It would provide the infrastructure necessary for the subspecialty to be regarded at an equivalent level to the rigorous training standards of our colleagues in cardiology and cardiac surgery. In their current structure pediatric cardiac anesthesiology fellowships lack the standardization and inter-program coordination to provide a consistent, cohesive training platform for development of the next generation of clinical and academic experts and leaders in the field of pediatric cardiac anesthesiology.

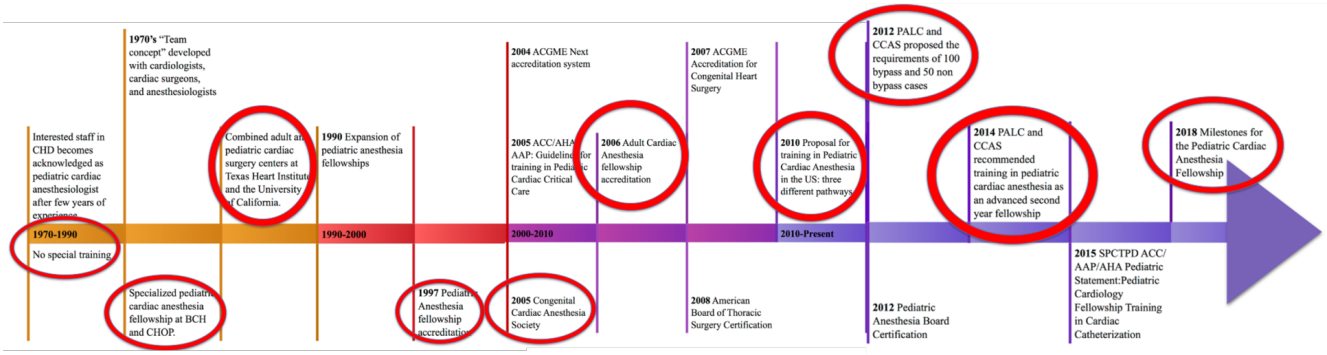
The establishment of such standards will, we believe, improve the overall quality of congenital cardiac anesthesia care in the United States as described below:

A. The assertion that clinical care and safety of patients will be improved through the recognition of the discipline.

In 1938 the first ligation of a patent ductus arteriosus was performed in a 7-year-old child and the discipline of pediatric cardiac anesthesiology began out of necessity.[4] Over the next few decades, major surgical advancements were achieved, including the Blalock-Taussig shunt operation for augmentation of pulmonary blood flow in 1944 and the description of the Norwood operation for successful palliation of hypoplastic left heart syndrome in 1983.[5,6] None of these milestones would have been achievable without simultaneous development of pediatric cardiac anesthesia expertise. Meanwhile, advancements in pediatric cardiopulmonary bypass were developing in the 1950s; these improvements led to a reduction of bypass related mortality of 50% to less than 10% and to rapid development in both the diversity and complexity of surgical repairs.[7] It soon became readily apparent that a multidisciplinary approach was necessary for patient care, and in the 1970s, the concept of a "team model" emerged: the cardiac anesthesiologist, cardiac surgeon, cardiac interventionalist, cardiac intensivist, and perfusionist working closely to optimize the performance of increasingly complex interventions for CHD and to optimize patient care following the procedures. (Figure 1)
Today, an estimated 40,000 live births per year in the United States are affected with CHD.[8] Increasingly, anesthesiologists are called upon to provide perioperative care to CHD patients ranging in age from premature neonates to adults. The intellectual, cognitive, and technical demands of providing care to this group of patients is rigorous and unique. Development of the interpersonal skills and confidence to manage complex physiological and patient safety issues are critical. Acquisition of this skill set can only occur within the context of a well-defined, milestone-oriented pediatric cardiac anesthesia training program. Given the increasing demands for well-trained pediatric cardiac anesthesiologists, it is essential that a cohort of comprehensively trained practitioners of this craft be consistently produced. This is the only viable pathway to further advance the key objectives of providing improved clinical care and enhanced patient safety.

Now is an ideal time for recognition of the discipline given that there is clear acknowledgement on the part of our cardiology and surgical colleagues that the skill set possessed by pediatric cardiac anesthesiologists is an essential component of procedural success and enhanced patent safety.[9-11] ACGME recognition of an official training pathway will further advance the mission of assuring that individuals with the requisite skill set are available to care for this unique patient population.

Figure 1: History of Cardiac Anesthesia. Red circles highlight the impactful events in the evolution of pediatric cardiac anesthesia training.



B. The existence of a body of scientific medical knowledge underlying the subspecialty or sub-subspecialty that is clinically distinct from other areas in which accreditation is already

offered, and this body of knowledge is sufficient for educating individuals in a clinical field, and not simply in one or more techniques.

Pediatric cardiac anesthesiology encompasses the care of neonates, infants, children and adults with CHD and pediatric patients with acquired heart disease. Initially, practitioners interested in the field would spend varying amounts of additional training time during their anesthesiology residency or as faculty members. However, the fields of congenital cardiac surgery and congenital cardiology made significant strides which required ever-increasing advances in the anesthetic care of these patients. While the subspecialty initially grew in concert with pediatric anesthesiology and adult cardiac anesthesiology programs, pediatric cardiac anesthesiology is now a distinct field which requires a unique fund of knowledge and skill set beyond that possessed by either the pediatric anesthesiologist or adult cardiac anesthesiologist alone.

In order to successfully care for patients with CHD and pediatric patients with acquired heart disease, it is necessary to gain expertise in the perioperative care of all forms of CHD from the simple to the most complex, and the pediatric acquired heart lesions. This includes a comprehensive understanding of congenital and acquired cardiovascular anatomy and pathophysiology. In addition, mastery of patient care along the continuum of care from the preoperative planning period, through the operative procedure itself, and through the postoperative recovery must be appreciated. In light of the wide spectrum of congenital cardiovascular anomalies and each condition having unique management considerations, the pediatric cardiac anesthesiologist must be adept at developing and executing an individualized perioperative anesthetic plan. In the operating room, this includes but is not limited to the selection of appropriate medications and anesthetic agents, monitoring, hemodynamic strategies, ventilatory parameters, and blood management/conservation techniques. Importantly, pediatric cardiac anesthesiologists must also master complex procedural skills to care for these patients with abnormal anatomy and physiology which go beyond those used to care for the patient with a normal cardiovascular system.

Furthermore, it is imperative that the pediatric cardiac anesthesiologist has a comprehensive understanding of the unique and rapidly evolving cardiovascular surgical procedures to palliate and repair these patients' conditions. This includes knowledge regarding the variations in pediatric cardiopulmonary bypass techniques, extracorporeal circulation and mechanical circulatory assist device principles. While most of the anesthetic management of these patients occurs in the cardiac operating room, there is an increasing need for the expertise of experienced pediatric cardiac anesthesiologists outside the operating room. The rapid evolution of complex percutaneous and hybrid procedures in the cardiac catherization and the electrophysiology laboratories requires that the pediatric cardiac anesthesiologist have a complete understanding of the complex procedural details to formulate an anesthetic management plan for these patients. Extensive use of cardiac magnetic resonance and computerized tomographic imaging has become the norm; this requires that the pediatric cardiac anesthesiologist be proficient in providing care to patients with complex physiology in a challenging environment. Finally, non-cardiac surgery is increasingly offered for complex CHD patients, and the specialized training and knowledge necessary for cardiac surgery is directly relevant to non-cardiac procedures.

There is significant evidence of a dedicated body of science, knowledge and skills related to the unique field of pediatric cardiac anesthesiology. There are chapters on the practice of pediatric cardiac anesthesia in every major anesthesia textbook, every major pediatric anesthesia textbook, and in several major cardiac surgical and pediatric interventional catheterization/electrophysiology textbooks. More importantly, there are numerous textbooks devoted entirely to the practice of pediatric cardiac anesthesia. These include but are not limited to the following:

a. Pediatric Cardiac Anesthesia, Carol L. Lake and Peter D. Booker (editors), currently in its Fourth Edition

b. Anesthesia for Congenital Heart Disease, Dean Andropoulos, Stephen Stayer, Emad Mossad, and Wanda Miller-Hance (editors), currently in its Third Edition

c. The Pediatric Cardiac Anesthesia Handbook, Viviane Nasr and James DiNardo (editors), in its First Edition

d. Anesthesia for Cardiac Surgery, James DiNardo and David Zvara (editors) with a chapter specifically dedicated to the unique aspects of congenital cardiac surgical management

e. Congenital Cardiac Anesthesia: A Case-Based Approach, Laura Diaz-Berenstain and James Spaeth (editors), currently in print.

f. Congenital Heart Disease in Pediatric and Adult Patients: Anesthetic and Perioperative Management, Ali Dabbaugh, Antonio Hernandez Conte, Lorraine Lubin, editors.

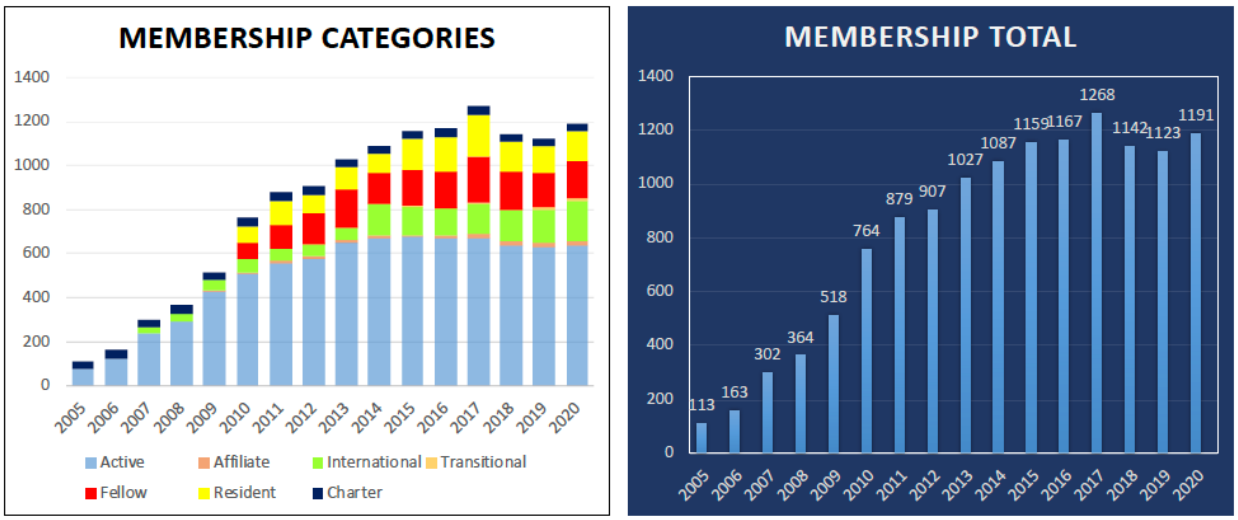
Thus, both the pediatric anesthesia and the cardiac anesthesia communities have given recognition to a specific underlying body of knowledge and expertise in pediatric cardiac anesthesiology which is supplemental to the larger field of pediatric anesthesia and cardiac anesthesia. In addition to textbooks and journals, dedicated pediatric cardiac anesthesia faculty at all the different respective programs constitute a body of knowledge and a source of education for the fellows in the field.

Pediatric cardiac anesthesiology has evolved into a distinctive discipline from pediatric anesthesiology and adult cardiac anesthesiology. This is analogous to the gradual evolution of both pediatric cardiac surgery and pediatric cardiology into entities separate from their parent specialties. The need for specific knowledge and skillsets related to the complex and varied nature of CHD and evolution of the CHD lesions, in addition to the need of understanding and incorporating age and developmental status of the patient necessitates comprehensive and separate training beyond that obtainable in already-established pediatric anesthesia training programs. This training includes teachings related to specialized anatomic and physiologic findings in patients with all forms of CHD and comprehensive perioperative management principles. In addition, training will address areas for further research related to the field and the need for continued collaboration with other specialists to advance the care of these patients.

C. The existence of a sufficiently large group of physicians who concentrate their practice in the proposed subspecialty or sub-subspecialty.

The CCAS was created in 2005 with an initial membership of 113 active members. The CCAS has demonstrated stable growth over the past 15 years and currently consists of 1191 members. (Figure 2) Active membership is comprised mainly of American Board of Anesthesiology (ABA) certified anesthesiologists, Pediatric anesthesiology-certified anesthesiologists and a number of Pediatric Critical Care anesthesiologists who care for patients with CHD. In addition, over the past 10 years, the membership witnessed an increasing number of residents and fellows, the new generation of our specialty. The current number of fellow members of the CCAS is 170 and resident members is 136.

Figure 2: The increase in the Congenital Cardiac Anesthesia Society membership and the different categories.



The number of pediatric cardiac anesthesia programs offering pediatric cardiac anesthesiology training has also grown from 2 in 2000, 8 in 2010 to 19 in 2020. In the last 6 years, 62 pediatric cardiac anesthesia fellows have completed 12-month academic training programs. The majority, of these trainees (75%) work either exclusively as a pediatric cardiac anesthesiologist or divide their time as a general pediatric anesthesiologist and as a pediatric cardiac anesthesiologist. Seven percent work in a combined pediatric cardiac and adult cardiac anesthesia programs. The remaining 15% are working in a combination of anesthesia and critical care, adult cardiac anesthesia, or other settings.

D. The existence of national medical societies with a principal interest in the proposed subspecialty or sub-subspecialty, including the number of peer-reviewed journals published in the subspecialty area, as well as how many national and regional meetings are held annually.

The CCAS (https://www.ccasociety.org) was founded in 2005 as a section of the Society for Pediatric Anesthesia (SPA). It is the only national organization in the United States specifically dedicated to the field of Pediatric Cardiac Anesthesiology. The mission statement of the CCAS is to improve the perioperative care and outcomes and facilitate technological advances in therapy for newborns, infants, and children with cardiovascular disease, congenital or acquired, and adults with CHD requiring anesthetic care. This is accomplished through (1) education, (2) collaboration

of members, (3) coordination with other societies having like-minded goals and objectives, (4) promotion of quality and safety, (5) research, (6) facilitating multi-institutional database, (7) establishing comprehensive training guidelines, and (8) advocacy.
The CCAS hosts an Annual Meeting in concert with the SPA-American Academy of Pediatrics (AAP) Annual Spring Meeting. This meeting takes place between the months of February and March for one day and attracts 200 – 300 attendees. The meeting represents the largest assembly of experts in the field of congenital cardiac anesthesia as well as experts in the field of cardiology, cardiac intensive care medicine, perfusion and congenital cardiac surgery. With national and international attendees and speakers, the meeting provides a unique opportunity to share the latest developments in research and anesthetic management of patients with CHD. In addition, expert members of the CCAS are asked to participate at the SPA-AAP Annual Meeting. This meeting takes place immediately following the CCAS for 3 days and attracts an excess of 1000 attendees every year, making it the largest gathering of pediatric anesthesiologists every year in the United States. Other national events with representation from the CCAS include the annual meetings of the following professional societies: the Society of Cardiovascular Anesthesiologist (SCA), the Pediatric Cardiac Intensive Care Society, the American Society of Extracorporeal Technology, and the Society of Thoracic Surgeons. More recently, experts from the CCAS have expanded the international participation of the society and the subspecialty of pediatric cardiac anesthesia to the World Congress of Pediatric Cardiology and Cardiac Surgery with a dedicated anesthesia track at the meeting in addition to the multidisciplinary sessions. In addition, the CCAS collaborates with other educational platforms to promote education internationally such as the Congenital Heart Academy and the Congenital Heart International Professionals Network (CHiP Network).

The major anesthesia journals *Anesthesiology*, *Pediatric Anesthesia, Anesthesia and Analgesia, Journal of Cardiothoracic and Vascular Anesthesia, Seminars in Cardiothoracic and Vascular Anesthesia, British Journal of Anaesthesia* and *Canadian Journal of Anesthesia* all regularly feature articles related to research in field of pediatric cardiac anesthesiology. In addition, research in pediatric cardiac anesthesia is regularly published in major Critical Care, Cardiology, and Cardiac Surgery journals including: *Pediatric Critical Care Medicine, Critical Care Medicine, Journal of Cardiothoracic and Vascular Surgery, Annals of Thoracic Surgery, Journal of the American College of Cardiology, Congenital Heart Disease,* and *Circulation.*

E. The regular presence in academic units and health care organizations of educational programs, research activities, and clinical services such that the subspecialty or sub-subspecialty is broadly available nationally.

Presence in academic centers and clinical services: Pediatric cardiac anesthesia is a well-established subspecialty within the field of pediatric anesthesia, and pediatric cardiac anesthesiologists are an integral component of both medical education and provision of high-quality healthcare. All 131 programs that offer congenital heart surgery in the United States have a dedicated pediatric cardiac anesthesia team that provides perioperative management for these patients. Most heart center programs have weekly multidisciplinary conferences where the surgical, catheter-based and hybrid interventional cases are planned and discussed, and morbidity and mortality sessions where complications/events are discussed. The pediatric cardiac anesthesiologist is an integral part of this team.

Most major pediatric hospitals have a pediatric cardiac anesthesiologist on staff. All pediatric cardiac anesthesia training programs are in departments with active anesthesia residency/fellowship programs and the pediatric cardiac anesthesia fellows have the opportunity to attend educational sessions (eg. grand rounds). Pediatric cardiac anesthesiologists at academic centers, within children's hospitals, and in community-based practices contribute actively to medical education as regards the perioperative management of patients with CHD presenting for both cardiac and noncardiac procedures.

Research activities: Pediatric cardiac anesthesiologists have consistently contributed to the broad body of knowledge associated with the care of CHD patients since the very first cardiac surgical procedure. Both independently and in collaboration with cardiology and surgical colleagues, cardiac anesthesiologists have been and continue to be involved at the forefront of science and medical research. This work has been highlighted at many venues, including scientific meetings, and presented in a broad range of high-impact journals. A conservative estimate of the number of such publications would be in the thousands. More recently, pediatric cardiac anesthesiologists have collaborated with hematologists to address the complexities of hemostasis and anti-coagulation in the CHD population.

The CCAS' mission is to promote and facilitate high-quality, collaborative, multi-site clinical research with the ultimate goal of improving health outcomes for children affected by CHD. Since 2017, CCAS has facilitated the creation of special interest groups related to specific research topics. For example, this includes the Hemostasis Interest group where members freely share ideas related to blood management and coagulation practice. The Hemostasis Interest group has been successful in publishing their findings and are currently working on another project addressing practice during cardiopulmonary bypass.[12] A CCAS database committee in collaboration with the STS has also facilitated multiple projects and publications.[13-15] The best abstracts during the annual meeting are highlighted with a special poster presentation session and they are published in the journal *Seminars of Cardiovascular Anesthesia*. The SPA funds pilot and career development grants to investigators, and a recent fund dedicated to research and education in pediatric cardiac anesthesia has been established by the CCAS. In fact, when surveying the pediatric cardiac anesthesia programs, the pediatric cardiac anesthesia fellows (62 graduates) in the last 6 years have participated in academic projects leading to publication of 30 chapters, 68 manuscripts and 19 other scholarly activities (eg. contribution to newsletters) and quality initiatives.

F. A projected number of programs sufficient to ensure that ACGME accreditation is an effective method for quality evaluation, including current and projected numbers for each participating specialty if the subspecialty is multidisciplinary.

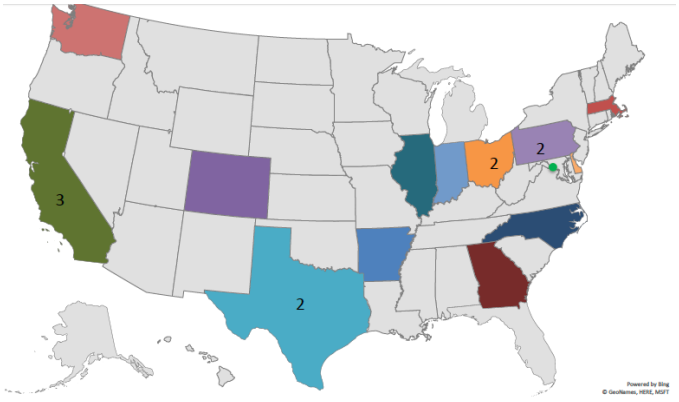
For decades, anesthesiologists who, for the most part, limit their practice to pediatric cardiac anesthesia have constituted a well-identified group. It now seems appropriate that this group of highly specialized anesthesiologists be recognized as a distinct subspecialty. As such there should be a training system that provides consistent, high quality, comprehensive training with sufficient flexibility to adapt to evolving educational requirements.

There are 19 hospitals in various regions of the United States that offer pediatric cardiac anesthesia fellowship training. The total number of positions offered are 25. The table below lists all programs

and number of offered positions for pediatric cardiac anesthesia fellowship training as of 2019-2020. Figure 3 illustrates the states that offer at least one pediatric cardiac anesthesia training program. The 4 States that have more than one pediatric cardiac anesthesia program have the number of programs within that state identified.

Figure 3: Listing of programs that offer pediatric cardiac anesthesia fellowship and the geographic location in the United States. Each colored state has at least one program; those with more than one program have the number identified within the state.

Programs	Offered Fellowship Positions
Arkansas Children's Hospital	1
Boston Children's Hospital	3
Children's National Medical Center	1
Children's Hospital Colorado	1
Children's Medical Center-UT Southwestern	1
Cincinnati Children's Hospital Medical Center	1
Children's Healthcare of Atlanta/Emory University	1
Children's Hospital Los Angeles	2
Children's Hospital of Philadelphia	1
Duke Children's Hospital	1
Lucile Packard Children's Hospital at Stanford	2
Lurie Children, McGaw Medical Center of Northwestern University	2
Nationwide Children's Hospital	1
Riley Hospital for Children	1
Seattle Children's Hospital, University of Washington	1
Texas Children's Hospital/Baylor College of Medicine	2
The Children's Hospital of Pittsburgh of UPMC	1
Thomas Jefferson University/A.I. Dupont Hospital for Children	1
University of California, San Francisco	1



It is our estimate that at least 10-12 of the 19 programs will be able to achieve accreditation in the first two years following ACGME approval of the proposal. A recent survey of all pediatric cardiac anesthesia fellowship programs has demonstrated commitment by the programs to the education of the fellows. The components of this commitment are: 1) implementation of a didactic curriculum, 2) a rotation schedule including time spent in the operating room, the cardiac catheterization/electrophysiology laboratory, imaging locations, and rotations with other disciplines (eg. perfusion, intensive care unit, imaging), and 3) a formal evaluative process of the fellows that includes an assessment of the clinical and academic experience during the year based on established milestones.[3]

G. The duration of the subspecialty or sub-subspecialty program is at least one year beyond education in the core specialty; and the educational program is primarily clinical.

The pediatric cardiac anesthesia fellowship program is designed to be a 12-month fellowship to be pursued following completion of pediatric anesthesia fellowship. The clinical practice of congenital cardiac anesthesiology is focused on the care of patients with congenital heart disease and pediatric acquired cardiac disease, and it requires a very broad knowledge of anesthesiology, cardiology, cardiac surgery and critical care medicine. Pediatric cardiac anesthesiology is a rapidly evolving field with new scientific insights being translated into changes in patient management. A successful training program in pediatric cardiac anesthesia requires the trainee to fully participate in the perioperative care of patients with CHD, ranging in age from birth to adult, in wide variety of anesthetizing locations. Additional clinical rotations covering the aspects of echocardiography, critical care, perfusion practice, and blood banking relevant to this patient population will also be beneficial.
The clinical skills required for successful practice are numerous and include advanced airway management in patients with difficult airway management and CHD, expertise with regional

anesthesia techniques, proficiency in arterial and central line placement and data interpretation, and expertise with use of point-of-care ultrasound. Clinical acumen sufficient to understand how anesthetic techniques can be tailored to optimize cardiopulmonary status for the wide variety of operative and catheterization procedures must be developed. A thorough understanding of different cardiopulmonary bypass techniques and their implications for perioperative management must be gained. During the 12-month fellowship, trainees are also expected to develop consultant-level knowledge of relevant areas such as perioperative cardiac intensive care and the management of children and adults with CHD having non-cardiac surgery and other procedures.

Progress through the pediatric cardiac anesthesia fellowship training program is tracked and measured through defined developmental milestones. The 18 milestones expected from a 12-month training in pediatric cardiac anesthesiology have been recently devised and described in detail with examples for each milestone. They have been published as a Consensus Statement in *Anesthesia and Analgesia* aiming to serve as a guide for programs that offer additional training in pediatric cardiac anesthesia.[3] (Table 1)

In addition, there exists some guidance as regards case numbers necessary to gain competency. In 2012, the PALC and CCAS suggested a minimum of 100 anesthetic procedures with the majority on cardiopulmonary bypass, 50% of cases in children less than 1 year of age and 25% in children less than 1 month of age. This experience also includes at least an additional 50 anesthetic cases covering diagnostic imaging, diagnostic and interventional catheterization procedures, and electrophysiology procedures. The suggested specific surgical, catheterization, electrophysiology and imaging cases have also been published.[16] The didactic curriculum for the fellowship is summarized by DiNardo et al.[1] This extensive clinical training often creates opportunities for academic scholarship (noted above) as there are many clinical areas of scientific discovery.

Table 1: Core competencies and milestones for the pediatric cardiac anesthesia fellowship.[3]

Six Core Competencies And Milestones
Patient Care (4):
Perioperative Assessment, Planning and Management
Technical/Procedural Skills
Understanding cardiovascular surgical procedures
Understanding cardiac catheter based therapeutic procedures and electrophysiologic studies
Medical Knowledge (4)
Congenital and acquired cardiovascular anatomy, physiology and pathophysiology
Pharmacology
Cardiopulmonary bypass, extracorporeal circulation and circulatory assist device principles
Understanding cardiac diagnostic procedures (e.g., echocardiography, magnetic resonance imaging, cardiac catheterization, computerized tomography)
Systems-based Practice (3)
Coordination of care
Incorporation of patient safety and quality improvement into clinical practice
Understanding of health care economics; cost awareness and cost-benefit analysis
Practice-based Learning and Improvement (2)
Self-directed learning and scholarly activity
Education of team members and other health care providers

Professionalism (3)
- Commitment to institution, department and colleagues
- Receiving and giving feedback
- Responsibility to maintain personal, emotional, physical and mental health

Interpersonal and Communications Skills (2)
- Communication with patients and families
- Interprofessional communication and transitions of care

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Society for Pediatric Anesthesia

education • research • patient safety

September 3, 2020

Thomas J. Nasca, MD, MACP
President and Chief Executive Officer, ACGME
Suite 2000
401 North Michigan Avenue
Chicago, IL 60611

RE: ACGME Accreditation for Pediatric Cardiac Anesthesia Fellowship

Dear Dr. Nasca,

I am very pleased to write to you on behalf of the Society for Pediatric Anesthesia in support of the application being submitted for ACGME approval of the pediatric cardiac anesthesia fellowship. This proposal was developed by a task force comprised of members of the Congenital Cardiac Anesthesia Society (CCAS) who represent leadership in the subspecialty from around the country. After careful review, we are in full support of this proposal.

Pediatric cardiac anesthesia has evolved over the years into a specialty in its own right. The scientific and professional work within the field continues to grow as the numbers of patients with congenital heart disease increases. In line with this, leaders within the specialty recognized the need to provide unique and appropriate training to trainees in the field. They have developed a complete and suitable curriculum that reflects the complexity of this field and the continued advances that are being achieved.

We feel strongly that the CCAS task force has created an outstanding fellowship proposal for your consideration which is in line with the goals of our Society to provide safe care of pediatric patients with heart disease. Through standardization of training of pediatric cardiac fellows, the care of patients with congenital heart disease will only continue to improve.

Sincerely,

Kirk Lalwani, MBBS, FRCA, MCR
President

Nina Deutsch, MD
President Elect

2209 Dickens Road • Richmond, Virginia 23230-2005
(804) 282-9780 • Fax (804) 282-0090 • www.pedsanesthesia.org • spa@societyhq.com

September 1, 2020

To: Thomas J. Nasca, MD, MACP

President and Chief Executive Officer, ACGME

401 North Michigan Avenue, Suite 200

Chicago, IL 60611

From: Board of Directors,

Pediatric Anesthesia Leadership Council

Dear Dr. Nasca and fellow ACGME committee members:

The Pediatric Anesthesia Leadership Council (PALC) is a section of the Society for Pediatric Anesthesia composed of 78 Division Chiefs and Department Chairs of pediatric anesthesiology at academic oriented free-standing children's hospitals, children's hospitals within University healthcare systems and other healthcare systems (e.g. Kaiser Permanente). **The mission of PALC is to provide a forum for leaders in pediatric anesthesiology to exchange ideas and experience, and to develop strategies to grow and strengthen our profession in order to better serve our patients and their families**. In 2019, the PALC members were responsible for the training and development of approximately 1500 pediatric anesthesiologists in our divisions and departments, which deliver approximately 1 million anesthetics to the pediatric population annually.

Due to our interest and responsibility for the training and development of the pediatric anesthesia workforce and the delivery of pediatric anesthesia services in the United States, we have been asked by the Society for Pediatric Anesthesia Graduate Medical Education Taskforce to review their proposal for ACGME accreditation of the subspecialty of pediatric cardiac anesthesia. For many years, the PALC divisions and departments have been keenly aware of the issues in pediatric cardiac anesthesia training and the resultant deficiencies of the pediatric cardiac anesthesia workforce as described in the proposal. The PALC leadership reviewed the proposal and conducted a survey of its membership seeking their opinion of the proposal.

The PALC leadership and membership strongly endorse the proposal for ACGME accreditation of the subspecialty of pediatric cardiac anesthesia. It is our opinion that justification for accreditation has been well-delineated in the proposal. Moreover, it is our strongest opinion that such ACGME accreditation

will strengthen the workforce in pediatric cardiac anesthesiology in the years to come and that this workforce will deliver higher quality and safer care to children with congenital and acquired cardiovascular disease in the United States, an area of significant concern at the present time.

Sincerely,

Thomas J. Long, MD, President of Pediatric Anesthesia Leadership Council

Dean Kurth, MD, Chairman of the Board, Pediatric Anesthesia Leadership Council

Allison Ross, MD, Board, Pediatric Anesthesia Leadership Council

SOCIETY OF
CARDIOVASCULAR
ANESTHESIOLOGISTS
Knowledge • Care • Investigation

1061 E. Main Stree, Suite 300, East Dundee, IL 60118
Phone: 855.658.2828
www.scahq.org

August 5, 2020

Thomas J. Nasca, MD, MACP
President and Chief Executive Officer,
ACGME and President and Chief Executive
Officer of ACGME International ACGME - Suite 2000
401 North Michigan Avenue
Chicago, IL 60611

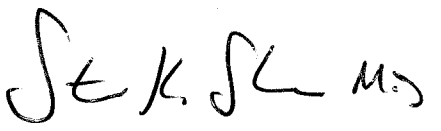
Dear Dr. Nasca,

I am happy and honored to provide this letter of strong support from the Society of Cardiovascular Anesthesiologists (SCA) for the Society of Pediatric Anesthesia Graduate Medical Education Task Force and the Pediatric Cardiac Anesthesia Fellowship Standardization Task Force's pursuit of a Pediatric Cardiac Anesthesia Fellowship.

The SCA is an international organization of health care professionals with an over 40 year history of commitment to excellence and leadership in providing excellent cardiovascular and thoracic patient care through education and research. In 2006, the Adult Cardiothoracic Anesthesiology (ACTA) sub-specialty became ACGME-accredited under the promotional guidance of the SCA. We therefore understand the exceptional value of pursuing this important level of credibility in the training and education of our anesthesiologist colleagues who specialize in the perioperative care of infants and children with various forms of congenital and acquired heart disease.

The SCA would highly recommend that the ACGME consider accrediting the subspecialty of pediatric cardiac anesthesia

Sincerely,



Stanton K. Shernan, MD, FAHA, FASE
Professor of Anaesthesia
President: Society of Cardiovascular Anesthesiologists
Associate Chair of Finance
Department of Anesthesiology, Perioperative and Pain Medicine
75 Francis Street
Boston, Massachusetts 02115
Tel: 617.732.8280
Fax: 617.732.6798
Email: sshernan@partners.org

The Pediatric Cardiac Intensive Care Society

110 Horizon Drive, Suite 210
Raleigh, NC 27615
919-573-5018

September 11, 2020

Thomas J. Nasca, MD, MACP
President and CEO
ACGME
401 North Michigan Avenue, Suite 2000
Chicago, IL 60611

Dear Dr. Nasca:

On behalf of the Board of Directors of the Pediatric Cardiac Intensive Care Society (PCICS), I am writing to confirm that PCICS fully supports the Congenital Cardiac Anesthesia Society's proposal to the Accreditation Council for Graduate Medical Education to accredit the subspecialty of pediatric cardiac anesthesia.

Pediatric cardiac intensivists and pediatric cardiac anesthesiologists have strong working relationships, and accredited training in this subspecialty will improve the care and safety of our mutual patients.

Sincerely,

John M. Costello, M.D., M.P.H.
President, PCICS
Vice Chair of Clinical Research, Department of Pediatrics
Director of Research, Children's Heart Center
Professor of Pediatrics, Medical University of South Carolina
Shawn Jenkins Children's Hospital

AATS Vision. Leadership. Scholarship.

September 3, 2020

Viviane G. Nasr, MD
Associate Professor, Harvard Medical School
Boston Children's Hospital
Department of Anesthesiology, Critical Care and Pain Medicine
Division of Cardiac Anesthesia
300 Longwood Avenue, Bader, 3rd Floor
Boston, Massachusetts 02115

Dear Dr. Nasr,

I would like to thank you and Dr. Pedro del Nido for sharing your letter from the Congenital Cardiac Anesthesia Society Executive Board, the Society of Pediatric Anesthesia Graduate Medical Education Task Force, and the Pediatric Cardiac Anesthesia Fellowship Standardization Task Force to ACGME requesting accreditation for the subspecialty of pediatric cardiac anesthesia. Following a review, the Association agrees with this important initiative and would be proud to formally support your request for accreditation. Please let us know what steps, if any, you need for the Association's support.

Additionally, please let us know if there are any ways the AATS and Congenital Cardiac Anesthesia Society can work together collaboratively in the future.

With my best personal regards,

David R. Jones

David R. Jones, MD
Secretary

Cc: Marc R. Moon, MD, President
Pedro del Nido, MD, Past-President