

**THE AMERICAN BOARD OF THORACIC SURGERY**

**Subspecialty Certification in  
Congenital Cardiac Surgery**

**BOOKLET OF INFORMATION**

**2017**



Office of the Board  
633 North St. Clair Street, Suite 2320 Chicago, Illinois 60611  
(312) 202-5976  
[info@abts.org](mailto:info@abts.org)

AMERICAN BOARD OF THORACIC SURGERY  
CONGENITAL CARDIAC SURGERY SUBSPECIALTY CERTIFICATION

|  | PAGE |
|--|------|
| ABTS Officers and Board of Directors                 | 3    |
| Congenital Cardiac Surgery Subcommittees             | 4    |
| Clinical Competence in Congenital Cardiac Surgery    | 7    |
| Pathways to Subspecialty Certification               | 8    |
| Pathway I  | 8    |
| General Requirements                                 | 9    |
| Operative Experience Credit and Case Criteria        | 10   |
| Index Cases  | 11   |
| Application for the Certification Process            | 12   |
| Examinations   | 14   |
| Examination Sequence                                 | 15   |
| Examination Fees                                     | 16   |
| Pathway II   | 16   |
| General Requirements                                 | 17   |
| Operative Cases Criteria and Index Case Requirements | 18   |
| Continuing Medical Education Requirements            | 19   |
| Examination  | 20   |
| Examination Fees                                     | 21   |
| ABTS Policies  | 21   |
| Disability   | 21   |
| Appeals  | 21   |
| Chemical Dependency                                  | 22   |
| Certification  | 22   |
| Maintenance of Certification®                        | 22   |
| Annual Diplomate Dues                                | 22   |
| Denial or Revocation of Certificate                  | 23   |
| Appendix   |      |
| ABTS CHS Case Summary Form                           | 24   |

THE AMERICAN BOARD OF THORACIC SURGERY  
INCORPORATED 1950

**2017 OFFICERS**

CAMERON D. WRIGHT, MD, Chair  
Boston, Massachusetts

BRYAN F. MEYERS, MD, Vice Chair  
Saint Louis, Missouri

DAVID A. FULLERTON, MD, Executive Director  
Aurora, Colorado

---

DAVID R. JONES, MD, Examination Chair  
New York, New York

---

PATRICIA L. WATSON, Administrative Director  
Chicago, Illinois

**2017 DIRECTORS**

J. THOMAS BOWLER, JR.  
Public Member  
Palm Beach, Florida

YOLONDA LORIG COLSON, MD, PhD  
Boston, Massachusetts

JOSEPH A. DEARANI, MD  
Rochester, Minnesota

JAMES I. FANN, MD  
Stanford, California

ROBERT S.D. HIGGINS, MD  
Baltimore, Maryland

CHRISTINE L. LAU, MD  
Charlottesville, Virginia

MICHAEL J. MACK, MD  
Plano, Texas

GEORGE J. MAGOVERN, JR., MD  
Pittsburgh, Pennsylvania

WALTER H. MERRILL, MD  
Nashville, Tennessee

JOE B. PUTNAM, JR, MD  
Jacksonville, Florida

ANNE G. RIZZO, MD  
Falls Church, Virginia

JAMES S. TWEDDELL, MD  
Cincinnati, Ohio

ARA A. VAPORCIYAN, MD  
Houston, Texas

STEPHEN C. YANG, MD  
Baltimore, Maryland

---

## **CONGENITAL CARDIAC SURGERY FOUNDERS COMMITTEE**

EDWARD L. BOVE, MD, Chair  
Ann Arbor, Michigan

JOHN H. CALHOON, MD  
San Antonio, Texas

CONSTANTINE MAVROUDIS, MD  
Orlando, Florida

ROSS M. UNGERLEIDER, MD  
Winston Salem, North Carolina

WINFIELD J. WELLS, MD  
Los Angeles, California

---

## **CONGENITAL CARDIAC SURGERY ADVISORY COMMITTEE**

JAMES S. TWEDDELL, MD, Chair  
Cincinnati, Ohio

JOSEPH A. DEARANI, MD, Director  
Rochester, Minnesota

CARL L. BACKER, MD  
Chicago, Illinois

RESHMA M. BINIWALE, MD  
Los Angeles, California

SCOTT M. BRADLEY, MD  
Charleston, South Carolina

JENNIFER C. ROMANO, MD  
Ann Arbor, Michigan

ROBERT D.B. JAQUISS, MD  
Durham, North Carolina

JOHN E. MAYER, Jr., MD  
Boston, Massachusetts

## **CONGENITAL CARDIAC SURGERY CONSULTANT COMMITTEE**

**JAMES S. TWEDDELL, MD, Chair**  
Cincinnati, Ohio

**JOSEPH A. DEARANI, MD, Director**  
Rochester, Minnesota

**CARL L. BACKER, MD**  
Chicago, Illinois

**DAVID P. BICHELL, MD**  
Nashville, Tennessee

**RESHMA M. BINIWALE, MD**  
Los Angeles, California

**KIRK R. KANTER, MD**  
Atlanta, Georgia

**ROBERT D.B. JAQUISS, MD**  
Durham, North Carolina

**CHRISTOPHER E. MASCIO, MD**  
Philadelphia, Pennsylvania

### **INTRODUCTION**

The American Board of Thoracic Surgery (ABTS or the Board) publishes this Booklet of Information for prospective candidates for examination in the subspecialty of Congenital Cardiac Surgery and others who are interested, to outline the rules and regulations established by the Board in conformity with its policies. This Booklet is revised annually.

Diplomates of the ABTS who hold the Congenital Cardiac Surgery subspecialty certificate appear in The Official American Board of Medical Specialties Directory of Board Certified Medical Specialists.

Inquiries to the ABTS should be made in writing, and may be referred to one or more committees of the Board. Replies to such letters of inquiry may therefore be delayed for several weeks. Address all communications to the Executive Director:

David A. Fullerton, MD  
American Board of Thoracic Surgery  
633 North St. Clair Street, Suite 2320  
Chicago, Illinois 60611

## **HISTORY**

The Board of Thoracic Surgery began as an affiliate of the American Board of Surgery in 1948. In 1971, thoracic surgery became a primary board and changed its name to The American Board of Thoracic Surgery. ABTS certificates became time-limited in 1976, with recertification required within ten year intervals. The Maintenance of Certification© program replaced recertification beginning in 2008.

In April 2005, training and experience in Congenital Cardiac Surgery was formally recognized by the ABTS as a subspecialty area of thoracic surgery. Edward L. Bove, MD, was appointed by the ABTS to chair an advisory committee for the development of the ABTS subspecialty certification in Congenital Cardiac Surgery. In August 2006, the ABTS applied to the American Board of Medical Specialties (ABMS) and was subsequently approved to offer Congenital Cardiac Surgery subspecialty certification. Development of the subspecialty certification requirements has been carried out in conjunction with development of program and training requirements by the Accreditation Council for Graduate Medical Education's (ACGME) Residency Review Committee for Thoracic Surgery (RRC).

The ABTS is a member of the ABMS, the umbrella organization encompassing twenty-four specialties with primary Boards. The purpose of all ABMS member boards is to certify physicians who have completed appropriate ACGME-approved residency training in a specialty area, and who meet certain other established criteria, and, through their Maintenance of Certification (MOC) programs, promote lifelong learning and practice improvement. These processes have been instituted in the public interest.

## **PURPOSE AND FUNCTION OF THE BOARD**

The primary purpose and most essential function of the ABTS is to serve the public by promoting excellence in practice through rigorous evaluation and examination, providing leadership in education, and ensuring high standards for professionalism, lifelong learning and certification. To achieve this objective in Congenital Cardiac Surgery, the Board has established qualifications for examination and procedures for certification and Maintenance of Certification. The requirements and procedures are reviewed regularly and modified by action of the Board as necessary.

Board certification is evidence that a physician's qualifications for specialty practice are recognized by his or her peers. It is not intended to define the requirements for membership on a hospital's staff, to define the scope of specialty practice, to state who may or may not engage in the practice of the specialty, or to gain special recognition or privileges for its Diplomates. Board certification of a physician does not relieve a hospital's governing body from responsibility in determining the hospital privileges of such a specialist.

The Board does not use or sanction the term "board qualified." The Board uses the term "board eligible" to designate a candidate who is in the certification process, i.e., whose application for subspecialty certification has been approved and who is eligible to take the Part I (written) qualifying or Part II (oral) certifying examinations. The Board does not consider any physician to be a candidate for examination until he or she has

made formal application and has been approved and accepted for examination. Acceptance for examination acknowledges only that the candidate has successfully fulfilled the basic requirements, and does not recognize that he or she is a “specialist” in Congenital Cardiac Surgery.

The ABTS does not publish a list of Congenital Cardiac Surgery residency training programs, nor does it maintain a list of available openings in training programs. Institutions whose training programs are approved by the ACGME RRC are listed in the Graduate Medical Education Directory published annually by the American Medical Association and available via the internet site [www.acgme.org](http://www.acgme.org).

The ABTS is an active member of the ABMS. The Board functions in close cooperation with the RRC-, and through it, the ACGME and the Council for Medical Affairs. The Board also maintains close liaison with the Thoracic Surgery Directors Association (TSDA) and the office of the Surgical Director for Education of the Joint Council for Thoracic Surgery Education.

## **DEFINITION OF CONGENITAL CARDIAC SURGERY**

Congenital Cardiac Surgery encompasses the diagnosis, care, and operative treatment of structural abnormalities involving the heart and major blood vessels. Although these defects generally result from congenital malformations, they may also include acquired defects in infants and children. Congenital cardiac surgeons care for patients from the fetus to the adult.

## **CLINICAL COMPETENCE IN CONGENITAL CARDIAC SURGERY**

Clinical competence in Congenital Cardiac Surgery requires factual knowledge and technical skills in the preoperative evaluation, operative management, and postoperative care of patients with congenital pathologic conditions involving cardiac structures, as well as infants and children with acquired defects of the heart and/or great vessels. Definition of the broad scope of Congenital Cardiac Surgery as well as the current methods used to assess education, knowledge, and experience ensure that an individual who is certified by the ABTS has met the highest standards and qualifications.

The examination for subspecialty certification in Congenital Cardiac Surgery encompasses the diagnosis and treatment of children with congenital and acquired heart disease, and patients of any age with congenital cardiac disease, including knowledge of normal and pathologic conditions of cardiovascular structures, and of congenital and acquired lesions (including infections, trauma, tumors, and metabolic disorders) of the heart and great vessels. Furthermore, familiarity with diagnostic procedures such as cardiac catheterization, angiography, electrocardiography, echocardiography, other imaging techniques, endoscopy, tissue biopsy, biologic and biochemical tests, and evolving techniques appropriate to the diagnosis and treatment of congenital cardiac diseases, is also required.

## **PATHWAYS TO SUBSPECIALTY CERTIFICATION**

Subspecialty certification in Congenital Cardiac Surgery by the ABTS may be achieved by completing one of the following two pathways and fulfillment of the other requirements that are listed.

**Pathway I** is available to those candidates who have trained or entered the practice of Congenital Cardiac Surgery starting on July 1, 2008 or thereafter. The requirements for admission into the certification process by this pathway can be found on pages 8-15.

**Pathway II** is for those candidates who completed thoracic surgery residency training and entered Congenital Cardiac Surgery training and/or practice prior to July 1, 2008. Admission into the certification process is based on training, current clinical experience, ongoing continuing medical education, and professional accomplishments in the field. The requirements for admission by this pathway are on pages 17-21.

### **PATHWAY I SUBSPECIALTY CERTIFICATION FOR CANDIDATES TRAINED BEGINNING ON OR AFTER JULY 1, 2008**

The factual knowledge and technical skills necessary to treat patients with congenital cardiac conditions are developed in a Congenital Cardiac Surgery residency program that is approved by the RRC-TS and accredited by the ACGME. The highest educational standards are best achieved in residency programs in which close supervision and instruction as well as progressive individual responsibility for operative and postoperative care are possible.

The ABTS realizes that a written examination primarily tests the acquired factual knowledge and the candidate's ability to reason. However, the limitations of an examination as the only assessment of clinical competence are well recognized. Therefore, an important part of the responsibility for determining clinical competence rests upon the Program Director of each Congenital Cardiac Surgery residency. For this reason and others, only applicants who successfully complete an ACGME-accredited Congenital Cardiac Surgery residency program and who are recommended by their training Program Director are considered for examination. It is during the period of the residency program that the trainee's judgment, technical skills, ability to cope with a wide variety of clinical problems, and ethical and moral character can be most accurately assessed. Thus, the endorsement of the candidate by the Program Director is required to complete eligibility for certification by the ABTS.

Currently valid, up-to-date primary certification by the ABTS is required for applicants for the subspecialty certificate in Congenital Cardiac Surgery.

The required route to subspecialty certification in Congenital Cardiac Surgery via this pathway is as follows: successful completion of an ACGME-approved thoracic surgery residency, followed by successful completion of Congenital Cardiac Surgery



residency training in an ACGME-accredited program, thoracic surgery certification by the ABTS, and successful completion of ABTS CHS written and oral examinations in Congenital Cardiac Surgery. These written and oral examinations are constructed and administered by the Board with consultation and assistance in developing the examinations, and in analyzing the results, obtained from content experts, psychometricians, and others. The validity and reliability of the examination process and content are scrutinized continually.

Congenital Cardiac Surgery training during or before successful completion of the thoracic surgery residency program does not count toward meeting the requirements for admission to the subspecialty certification process.

To enter the examination process, a candidate must submit an application to the ABTS that includes the specifics of the congenital cardiac surgical operative experience during the Congenital Cardiac Surgery residency, and the attestation by signature of the Program Director indicating satisfactory performance and satisfactory completion of the Congenital Cardiac Surgery residency training. Approved applicants must then achieve a passing score on both the written and oral examinations, acknowledging that the candidate possesses sufficient training, experience and judgment necessary for competence in Congenital Cardiac Surgery.

A physician who has successfully completed the ACGME requirements for thoracic surgery and Congenital Cardiac Surgery residency programs, but who has not achieved primary certification by the ABTS for more than two years after completion of Congenital Cardiac Surgery training will be asked to provide additional information regarding cases performed and CME obtained during the interval between congenital training program completion and application for subspecialty certification, before such application can be considered.

The procedures for establishing a candidate's qualifications will be reviewed periodically and revised, when appropriate, in a continuing effort to provide public assurance that congenital cardiac surgeons granted a subspecialty certificate by the ABTS have been adequately trained and educated in, and are competent to practice the specialty of Congenital Cardiac Surgery.

## **GENERAL REQUIREMENTS**

Subspecialty certification by the ABTS may be achieved for Congenital Cardiac Surgery residents who began training on July 1, 2008 and thereafter by fulfillment of these requirements:

1. Successful completion of a full residency in Congenital Cardiac Surgery in a program approved by the ACGME RRC-TS within twelve (12) consecutive months and at a single institution.
2. Operative case experience verified by the Congenital Cardiac Surgery Program Director to meet or exceed currently required minimum surgical volume and index case distribution shown on page 11. All required cases must be performed within the 12 consecutive months of the residency. Cases performed outside of that designated period, even if done within the same institution, will not be counted toward eligibility.
3. Currently valid primary certification by the ABTS.

4. Good standing with the ABTS, including current with Maintenance of Certification and all dues and fees.
5. Currently registered, full, and unrestricted license to practice medicine granted by a state or other United States jurisdiction. The license must be valid at the time of application for admission to examination and maintained until the Subspecialty Certificate is granted by the ABTS. A temporary and/or limited license such as an educational, institutional, or house staff permit is not acceptable to the Board.
6. Ethical standing in the profession and a moral status in the community that are acceptable to the Board.

## **CONGENITAL CARDIAC SURGERY RESIDENCY PROGRAM REQUIREMENTS**

Candidates must have fulfilled and successfully completed all of the residency training requirements of an ACGME-approved Congenital Cardiac Surgery training program that are in force at the time their Congenital Cardiac Surgery training program begins.

Candidates for certification must complete twelve (12) consecutive months of Congenital Cardiac Surgery residency training in a single program accredited by the ACGME RRC-TS. The residency Program Director must approve the application form by original signature, certifying that the candidate has satisfactorily completed the residency in Congenital Cardiac Surgery, and must endorse each candidate's qualifications by written evaluation. Supervisory Congenital Cardiac Surgery faculty are also required to provide written evaluation of the candidate.

Operative case logs required for application for certification by the ABTS must be maintained on ABTS forms; ACGME logs do not satisfy this requirement.

### **OPERATIVE EXPERIENCE CREDIT**

Full credit will be allowed for supervised operative experience in a well-organized teaching setting only when the following criteria are met:

1. The resident participates in the diagnosis, preoperative planning, surgical indications, and selection of the appropriate operation;
2. The resident performs those technical manipulations that constitute the essential parts of the operative procedure itself, under appropriate supervision in a well-organized teaching setting approved by the RRC-TS,
3. The resident is substantially involved in postoperative care.

Supervision and active participation by the Congenital Cardiac Surgery faculty are required in preoperative, intraoperative, and postoperative care.

Although the Board also acknowledges that 'first-assisting' at operations is an important part of resident experience, particularly in complex or relatively uncommon cases, index and major cases for credit toward the ABTS application for subspecialty certification require that the resident be the primary surgeon.

## **OPERATIVE CASE CRITERIA**

A broad education and adequate operative experience in Congenital Cardiac Surgery are essential in every ACGME-approved residency program, irrespective of the area of Congenital Cardiac Surgery in which a candidate may choose to practice. The operative experience requirement for the ABTS has two parts. One is concerned with the intensity or volume of cases, and the other with the distribution of cases (Index cases).

### **1. Surgical Volume (Intensity)**

The Board's operative experience requirements include performance of a minimum of seventy-five (75) major pediatric congenital cardiac operative procedures as primary surgeon during the twelve (12) months of residency training.

This guideline on intensity of cases conforms to the Program Requirements in Thoracic Surgery as published by the ACGME and the RRC-TS.

The application of any candidate whose supervised operative experience fails to meet the minimum requirement of 75 major pediatric congenital cardiac operations as primary surgeon will be referred to the Credentials Committee for review. Additional training time may be necessary for the candidate to meet the surgical case intensity requirement.

Repeated incidences of a program's failure to meet operative volume requirements for its residents may be reported to the RRC-TS.

### **2. Index Cases (Distribution)**

Index cases are full credit, primary surgeon cases only, performed during the twelve (12) months of Congenital Cardiac Surgery residency training. Applicants are required to have an extensive education and adequate operative experience in sufficient depth and breadth of the entire scope of Congenital Cardiac Surgery so as to be able to practice independently after program completion. The number of index cases required to meet the minimal acceptable standards in the various areas are as follows.

The application of any candidate whose supervised operative experience fails to meet the minimum Index Case requirements for pediatric congenital cardiac operations as primary surgeon will be referred to the Credentials Committee for review. Additional training time may be necessary for the candidate to meet the surgical case distribution requirement.

Repeated incidences of a program's failure to meet operative distribution requirements for its residents may be reported to the RRC-TS.

## **INDEX CASES**

Operative experience must include a minimum of 75 major pediatric congenital cases and must include at least the following minimum numbers of index cases:

- 5 Ventricular Septal Defect repairs
- 4 Atrioventricular Septal Defect repairs
- 4 Tetralogy of Fallot repairs
- 4 Arch reconstruction, including coarctation procedures
- 5 Arterial Switch, Norwood, Damus-Kaye-Stansel, Truncus Arteriosus repair [any combination to a total of at least 5]
- 5 Glenn/Fontan procedures
- 5 Systemic-to-Pulmonary Artery Shunt procedures

In order to ensure an appropriately diverse distribution of cases, the applicant's case log **cannot exceed a maximum** of the specified number for the following cases for credit toward the application requirement among the 75 major congenital cases:

- 5 Secundum Atrial Septal Defect/Patent Foramen Ovale closure procedures
- 5 Patent Ductus Arteriosus ligation and/or division
- 5 Pulmonary Artery banding
- 10 Right Ventricle-to-Pulmonary Artery Conduit insertion/replacement; Pulmonary Valve replacement
- 5 Other valve repair or replacement (patients 18 years of age or under, only)

The Board recognizes that supervised operative experience in a well-organized teaching setting that is approved by the RRC-TS protects the patient, for whom the faculty surgeon has the ultimate responsibility. This supervised experience optimally prepares the candidate to begin the independent practice of Congenital Cardiac Surgery after the completion of residency training. The evaluation of the candidate by the surgical faculty validates such preparation.

The ABTS CHS Credentials Committee is authorized by the Board to reject a candidate if the operative experience during the Congenital Cardiac Surgery residency is considered to be inadequate in volume and/or distribution. The candidate, the Program Director, and the RRC will be notified if such action is taken. If the CHS Credentials Committee finds the applicant's operative experience inadequate and additional training is required, all such additional training must be approved by the Board in advance of undertaking such training. If the Program Director determines that a resident needs additional training beyond the twelve (12) months that has been approved by the ACGME and the RRC before submitting a candidate's application, this additional training must also be approved in advance by the Board.

Even though emphasis on one or another facet of Congenital Cardiac Surgery may have characterized a candidate's residency experience, the candidate is nevertheless held accountable for knowledge concerning all areas and phases of the field. The candidate should also have an in depth knowledge of the management of acutely ill patients age 18 and under in an intensive care unit setting. This requires an understanding of cardiorespiratory physiology, respirators, blood gases, metabolic alterations, cardiac output, extracorporeal membrane oxygenation, hyperalimentation, and many other areas. By virtue of the residency training in Congenital Cardiac Surgery, the candidate is expected to be knowledgeable in the surgical care of critically ill pediatric and adult patients and the critical care of surgical patients.

## **APPLICATION INFORMATION**

Before applying for examination in Congenital Cardiac Surgery, prospective candidates should consider whether they are able to meet the requirements of the Board.

**Applications are accepted between June 1 and August 15 of each year** and are available through links on the Board website, [www.abts.org](http://www.abts.org).

Candidates beginning training July 1, 2013 and thereafter must apply for the subspecialty examination within one (1) year after the satisfactory completion of the Congenital Cardiac Surgery residency training program. The Board considers “one year” to include two registration cycles. This requirement is superseded by the requirement to first achieve primary certification by the American Board of Thoracic Surgery. A candidate who has successfully completed the ACGME requirements for thoracic surgery and Congenital Cardiac Surgery residency programs, but who has not achieved primary certification by the ABTS for more than two years after completion of Congenital Cardiac Surgery training will be asked to provide additional information regarding cases performed and CME obtained during the interval between congenital training program completion and application for subspecialty certification, before such application can be considered.

All candidates must meet the operative case requirements as listed in this Booklet.

Candidates are required to use the application and operative case reporting forms found on the ABTS web site at [www.abts.org](http://www.abts.org). The completed application must be “finalized” on line, and must include the required signatures and photographs. Specific formatting is required for operative case log reporting. Case logs in an unapproved format will be returned and revision requested, which must be received by the application deadline. A fee of \$50 will be assessed for returned applications. Applications must be finalized no later than August 15. No application will be considered for the current year after that date. Correspondence from the Board regarding applications will be via email.

Operative case logs required for application for certification by the ABTS must be maintained on ABTS forms; **ACGME logs will NOT satisfy this requirement.**

After completion by the candidate, the application must be reviewed and signed electronically by the candidate’s Program Director.

The operative case logs are considered to be the property of the resident, and are not kept in the Board office after the physician becomes certified. Each candidate should consult with his or her Program Director or ABTS regarding the correct way to complete and maintain the ABTS operative case log forms.

Once an application is received by the ABTS, it is considered the official and only record. The Board assumes that the appropriate signatures authenticate the accuracy of the case lists and all other information submitted on the application, and reserves the right to seek validation of any information contained in the application. An incomplete or incorrectly completed application may delay processing for one year. Inaccurate information provided in a completed application may invalidate the application and may jeopardize the candidate’s eligibility. Candidates are encouraged to address questions regarding the ABTS requirements to their Program Director or to the Board office.

**The deadline for finalizing the completed application is August 15.** Failure to meet that deadline will result in a delay of one year before the candidate may be eligible for examination. Applications finalized after August 15 will not be considered for this year’s examination.

Candidates are notified of their eligibility for examination by mail when their application has been approved.

Candidates must be accepted for examination within a maximum of five years of completion of an approved Congenital Cardiac Surgery residency. This requirement will not be waived.

## **EXAMINATIONS**

The examination process for subspecialty certification in Congenital Cardiac Surgery for Pathway I candidates consists of separate written and oral examinations held at times and places determined by the Board. Information regarding the dates and locations of the examinations is published in the Journal of Thoracic and Cardiovascular Surgery and the Annals of Thoracic Surgery, and the Board's web site at [www.abts.org](http://www.abts.org).

The 2017 Part I (written) qualifying examination in Congenital Cardiac Surgery will be given to approved candidates on **December 4, 2017** in electronic format at Pearson Professional Testing Centers located throughout the United States. Specific information will be provided to approved candidates.

The 2017 Part II (oral) certifying examination in Congenital Cardiac Surgery will be administered on **June 8, 2017**, in Chicago, Illinois. Specific information will be provided to candidates who have successfully completed the Part I examination. There is no additional, separate application for the Oral exam.

### **PART I (Written) EXAMINATION**

The written examination in Congenital Cardiac Surgery is designed primarily to assess cognitive skills. The content of this examination represents all aspects of the specialty of Congenital Cardiac Surgery, including the topics of:

Septal Defects

Anomalies of Venous Connection

Anomalies of the Aorta, Aortic Arch, and Coronary Arteries

Anomalies of the Tricuspid and Mitral Valves

Anomalies of the Aortic Valve and Left Ventricular Outflow Tract

Anomalies of the Pulmonary Valve and Right Ventricular Outflow Tract

Conotruncal Anomalies

Anomalies of Atrioventricular Connection, Univentricular Heart, and

Atrial/Visceral Situs

Diseases of the Myocardium

Pre-, Intra-, and Post-Operative Evaluation and Management of Congenital Cardiac Disease

Acquired Cardiovascular Diseases in Infants and Children

## **PART II (Oral) CERTIFYING EXAMINATION**

Successful completion of the Part I (written) CHS examination is a requirement for admission to the Part II (oral) CHS examination. The oral examination is designed to test the candidate's knowledge, judgment, problem-solving, and ability to correlate information in the management of clinical problems in Congenital Cardiac Surgery. Candidates are expected to be proficient in all areas of Congenital Cardiac Surgery. There is no separate application for the Part II (Oral) examination. Candidates who are successful in the Part I (Written) examination will be sent information for subsequent Part II exams via email or standard US mail. It is the responsibility of the candidate to keep the Board informed of any change of address.

### **EXAMINATION SEQUENCE**

Candidates beginning training July 1, 2013 and thereafter must apply for the congenital subspecialty examination within one (1) year after the satisfactory completion of their Congenital Cardiac Surgery residency. The Board considers "one year" to include two (2) registration cycles. Any candidate applying for the examination more than one year after the satisfactory completion of the Congenital Cardiac Surgery residency will be considered individually by the Board's CHS Credentials Committee. To be eligible for the congenital subspecialty certification process, any recommended additional training must be completed before an application can be submitted. Individual consideration will be made for candidates actively participating in the ABTS primary certification process via CHS Credentials Committee review.

After a candidate is declared eligible for the written examination (Part I) in Congenital Cardiac Surgery, he or she must take and pass Part I within three (3) consecutive years. The candidate who successfully completes Part I of the examination then must pass Part II within the succeeding three (3) consecutive years. Candidates must become certified within a total of seven (7) years from the end of their Congenital Cardiac Surgery residency.

Candidates who fail an examination (Part I or Part II) may be eligible to take the examination the following year, for a total of three (3) attempts in three (3) years for each exam.

Candidates who fail either Part I or Part II of the examination three (3) times, or do not pass either part of the examination within the allotted time period of three (3) years for each exam, will be required to complete additional congenital cardiac surgical training, which must be approved by the Board in advance of the additional training, before the candidate will be permitted to retake the examination. The required additional training must be completed within the succeeding two (2) year period after losing eligibility for either the Part I or Part II examination. Candidates who are participating in additional training will be considered "in training" and the Board's eligibility rule will be "on hold" until that training has been completed. Candidates who complete the required additional training must have their eligibility for examination reviewed by the Executive Director of the ABTS and/or the CHS Credentials Committee prior to being permitted to retake the examination. Once readmitted to the examination process, candidates will be

given two (2) more opportunities to pass the examination (Part I or Part II) within the succeeding two (2) years.

Candidates who fail either Part I or Part II a fifth time will be required to complete a full, ACGME-approved Congenital Cardiac Surgery residency before they will be eligible to re-apply for examination by the Board.

### PATHWAY I EXAMINATION FEES

|   |                |
|---|----------------|
| <b>Application fee (not transferable or refundable) .....</b> | <b>\$ 600</b>  |
| <b>Part I (Written) CHS Examination fee .....</b>             | <b>\$1,300</b> |
| <b>Part II (Oral) CHS Examination fee .....</b>               | <b>\$1,525</b> |

Candidates who do not appear for their scheduled examination (Part I or Part II) or who cancel less than 4 weeks prior to either examination may forfeit the examination fee.

The Board is a non-profit corporation, and the fees from candidates are used solely to defray actual expenses incurred in conducting examinations and carrying out the business of the Board. The Directors of the Board serve without remuneration.

ABTS policies and additional requirements for all candidates for subspecialty certification continue on pages 21-23.

## PATHWAY II

**IN 2015, THE AMERICAN BOARD OF THORACIC SURGERY  
APPROVED THE INDEFINITE EXTENSION OF THE AVAILABILITY  
OF CONGENITAL CARDIAC SURGERY SUBSPECIALTY  
CERTIFICATION VIA THE SO-CALLED “GRANDFATHER”  
PATHWAY**

**SUBSPECIALTY CERTIFICATION FOR CANDIDATES  
ENTERING THE PRACTICE OF OR TRAINED IN CONGENITAL  
CARDIAC SURGERY PRIOR TO JULY 1, 2008**

Admission to the ABTS Congenital Cardiac Surgery subspecialty certification process for those who began Congenital Cardiac Surgery practice (after successful completion of thoracic surgery residency training) prior to July 1, 2008 or whose Congenital Cardiac Surgery training began after completion of thoracic surgery residency training and prior to July 1, 2008, is based on training and current experience, case volume and distribution, primary ABTS Board certification, duration of active participation in a Congenital Cardiac Surgery-related field, participation in continuing medical education, and contributions to the specialty and professional accomplishments. To be eligible, Diplomates must have completed training in thoracic surgery prior to



training in Congenital Cardiac Surgery, and to have completed thoracic surgery and congenital training and/or entered practice prior to July 1, 2008. Congenital Cardiac Surgery rotations during ACGME-approved thoracic surgery residency training do not qualify as “Congenital Cardiac Surgery training” for purposes of eligibility for ABTS subspecialty certification.

Applicants are expected to conform to and maintain high moral and ethical standards.

**Applications are accepted between June 1 and August 15 of the current year.**

## **PATHWAY II GENERAL REQUIREMENTS**

Subspecialty certification in Congenital Cardiac Surgery by the ABTS may be achieved for surgeons who began the practice of Congenital Cardiac Surgery prior to July 1, 2008 by fulfillment of these requirements. The candidate must:

1. have completed both thoracic surgery and Congenital Cardiac Surgery training, and have entered practice prior to July 1, 2008.
2. have achieved primary certification by the ABTS and be in current good standing with a valid certificate, current with Maintenance of Certification requirements, and current with all dues and fees.
3. submit an appropriately completed application and meet the requirements described therein.
4. hold a currently registered, full and unrestricted license to practice medicine granted by a state or other United States jurisdiction. The license must be valid at the time of application for admission to examination and maintained at least until the Subspecialty Certificate is granted by the ABTS. A temporary and/or limited license such as an educational, institutional, or house staff permit is not acceptable to the Board.
5. hold full and unrestricted inpatient hospital admitting, inpatient care, and consultative privileges in Congenital Cardiac Surgery and qualifying cases are performed at an institution accredited by the JCAHO or other organization judged acceptable by the ABTS.
6. meet the operative case criteria volume and distribution described on page 17 during each of the 2 years immediately preceding application, not including cases performed during residency training.
7. provide evidence of participating in continuing medical education (CME), including the accumulation of at least 30 hours of Accreditation Council for Continuing Medical Education (ACCME)-approved Category I CME during each of the 2 years immediately preceding the application. At least 15 of the 30 hours each year must be in the broad category of Congenital Cardiac Surgery. No more than 10 hours each year may be earned at the applicant’s “home” or directly affiliated institution and apply to one ‘home’ institution regardless of the number of institutions for which the applicant has privileges. No more than 10 hours each year may be credited for journal reading activities. (See additional information on page 19)
8. provide evidence of significant contribution to the profession of Congenital Cardiac Surgery, which may include affirmation from the community that the applicant is

recognized as a specialist and consultant in a Congenital Cardiac Surgery-related discipline, congenital cardiac surgical service in a medically underserved area, or service to thoracic surgery-related associations or societies in an area of Congenital Cardiac Surgery.

9. possess an ethical standing in the profession and a moral status in the community that are acceptable to the Board.
10. pass a secure, closed-book written examination.

Candidates with special circumstances should include a letter of full explanation with their application for review by the ABTS CHS Credentials Committee.

## **PATHWAY II OPERATIVE CASE CRITERIA**

A broad education and adequate operative experience in Congenital Cardiac Surgery are essential, irrespective of the area of Congenital Cardiac Surgery in which a candidate may choose to practice. The operative experience requirement of the ABTS has two parts. One is concerned with the intensity or volume of cases, and the other with the distribution of cases (index cases).

### **1. Surgical Volume (Intensity)**

The Board's operative experience requirements include a minimum of 75 major pediatric congenital cardiac operative procedures performed as an attending primary surgeon during each of the 2 years immediately preceding the application. In this pathway, operative procedures performed during training will not apply.

The application of any candidate whose operative experience fails to meet the minimum requirement of 75 major congenital cardiac operations per year as primary surgeon will be referred to the Credentials Committee for review.

### **2. Index Cases (Distribution)**

Index cases are full credit, primary surgeon cases only.

The application of a candidate whose operative experience does not include the required number of index cases as listed below will be sent to the Credentials Committee for review. The ABTS Credentials Committee is authorized by the Board to reject a candidate if the operative experience is considered to be inadequate in volume and/or intensity depth and/or breadth. The number of index cases required to meet the minimal acceptable standards in the various areas are shown below.

## **PATHWAY II INDEX CASE REQUIREMENTS**

Operative experience must include a minimum of 75 major open pediatric congenital operations in each of the 2 years immediately preceding the application (approximately July 1-June 30 each year) and must reflect depth and breadth in the scope of practice.

In order to ensure an appropriately diverse distribution of cases, the applicant's case log cannot exceed (i.e., count for credit) a maximum of the specified number for the following cases in each year toward the application requirement:

- 5 Secundum Atrial Septal Defect/Patent Foramen Ovale closure
- 5 Patent Ductus Arteriosus ligation and/or division
- 5 Pulmonary Artery banding
- 10 Right Ventricle-to-Pulmonary Artery Conduit insertion/replacement;  
Pulmonary Valve replacement
- 5 Other valve repair or replacement (patients 18 years of age or under, only)

## **PATHWAY II CONTINUING MEDICAL EDUCATION REQUIREMENTS**

Each Diplomate of the ABTS applying for certification in Congenital Cardiac Surgery must accumulate at least 30 hours of Accreditation Council for Continuing Medical Education (ACCME)-approved Category I continuing education credit hours in Congenital Cardiac Surgery, cardiothoracic surgery, and/or general thoracic surgery in EACH of the TWO years immediately preceding the date of the application. At least 15 hours EACH year must be in **specifically identified** Congenital Cardiac Surgery topics. The Congenital Cardiac Surgery activities must be specifically delineated on the CME report or certificate. No more than 10 hours each year may be counted from your own or a directly affiliated institution for activities such as M&M conferences, cardiac catheterization conferences, Grand Rounds, etc. No more than 10 hours each year may be credited for journal reading activities only in the Annuals of Thoracic Surgery and/or Journal of Thoracic and Cardiovascular Surgery. **A copy of each certificate must accompany the application and all congenital activities must be specifically delineated by the organization granting the CME credit.**

Credit is allowed for ACCME Category I-approved medical educational activities, with some exceptions as noted below. Category I includes programs such as the annual meetings and postgraduate thoracic surgical programs of the major thoracic surgery associations and societies. Grand Rounds, Morbidity and Mortality (M&M) conferences, departmental conferences, echocardiography conferences, etc. are allowed only up to a maximum of 10 hours credit per year, from one institution only, and only if the institution is approved to offer ACCME Category I credit for these conferences. Written confirmation of institutional ACCME approval must accompany the application. SESATS is the only self-instructional material credit allowed, and is applicable to "general" thoracic surgery credits only. Credit for on-line courses may be accepted provided the course is approved for Category I by the ACCME and there is appropriate documentation of the Diplomate's participation. The Annals of Thoracic Surgery and the Journal of Thoracic Surgery each have at least one article per month designated for Category I CME credit. **A maximum of 10 hours' credit each year is allowable from journal reading.** Credit is not given for other journal reading, medical teaching, preparation of teaching/educational materials, publications, exhibits, presentation of papers, etc. The AMA Physician's Recognition Award is not acceptable in fulfillment of

the CME credit requirement for subspecialty certification in Congenital Cardiac Surgery. Category II credits are not counted toward eligibility. **A copy of each certificate must accompany the application.**

## **PATHWAY II EXAMINATION**

The written examination is designed primarily to assess cognitive skills. The content of the questions on this examination represents coverage of all aspects of the Congenital Cardiac Surgery specialty, and is listed on page 14. Candidates who began Congenital Cardiac Surgery practice and/or training at any time prior to July 1, 2008 and who successfully pass the ABTS written examination for Congenital Cardiac Surgery will not be required to take an oral examination.

The 2017 Written examination in Congenital Cardiac Surgery will be given **December 4, 2017** in electronic format at Pearson Professional Testing Centers located throughout the United States. Specific information will be provided to approved candidates.

Candidates may access an application on the ABTS web site at [www.abts.org](http://www.abts.org). Specific formatting is required for operative case log reporting and is part of the application. Completed applications must include all appropriate electronic signatures and all inclusions (logs, signature pages, pictures etc.) uploaded. A fee of \$50 will be assessed for applications requiring further information. Applications must be finalized no later than August 15. No application will be considered for the current year when via email to the candidate.

When an application is approved candidates are allowed three (3) attempts to pass the examination within three (3) years of approval of the candidate's application. Candidates must maintain eligibility during attempts to pass the examination.. This includes current state licensure and current good standing with the ABTS (MOC, dues, fees, etc). Candidates who fail an examination may be eligible to take the examination the following year without having to re-apply, for a total of three (3) attempts.

Candidates who fail the examination 3 times, or who do not pass the examination within the allotted 3-year time period, will be required to complete a Congenital Cardiac Surgery educational program, which must be approved in advance by the Board, before they will be permitted to retake the examination. The extent of additional education will be determined by the Board. The required additional training must be completed within the succeeding two (2) year period after losing eligibility for the written examination. Candidates who complete the required additional training must have their eligibility for examination reviewed by the Executive Director and/or the CHS Credentials Committee. After additional training, candidates will be given two (2) more opportunities to pass the examination within the succeeding two (2) years.

Candidates who fail the examination a fifth (total) time will be required to complete an approved, full Congenital Cardiac Surgery residency before they will be eligible to re-apply for examination by the Board.

## PATHWAY II EXAMINATION FEES

|  |                |
|--|----------------|
| <b>2017 Application fee (not transferable or refundable) .....</b> | <b>\$ 600</b>  |
| <b>2017 Pathway II Written CHS Examination fee.....</b>            | <b>\$1,550</b> |

Candidates who do not appear for their scheduled examination or who cancel less than 30 days prior to the examination may forfeit their examination fee.

The Board is a non-profit corporation, and the fees from candidates are used solely to defray actual expenses incurred in conducting examinations and carrying out the business of the Board. The Directors of the Board serve without remuneration.

ABTS policies and additional requirements for all candidates for subspecialty certification continue below.

### **The following requirements and policies apply to ALL CANDIDATES seeking Congenital Cardiac Surgery subspecialty certification:**

#### **DISABILITY**

The ABTS takes particular note of the problems facing those candidates with a disability, and stands ready to alter its examination procedures in such a way that a candidate who is competent to practice Congenital Cardiac Surgery has the opportunity to take the Board's examinations under circumstances that accommodate the individual's disability. Individuals requiring special consideration because of a disability should notify the Board in writing at least 60 days before the August 15 deadline for submitting an application.

#### **APPEALS**

Individuals who receive an unfavorable ruling from a committee of the Board regarding their application may appeal such determination by mailing a notice of appeal to the office of the ABTS within 45 days of the date such ruling was mailed. A copy of the appeals procedure will be mailed to the candidate at his/her request.

Individuals who are in the written examination process may only request reconsideration regarding potential fraud, misconduct or irregularities, not the content of the examination, the sufficiency or accuracy of the answers given, scoring of the examination, nor any other matter. Any individuals who wish to seek reconsideration on the basis of fraud, misconduct or irregularities may immediately upon conclusion of the written examination, and in any event no later than 7 days following the written examination, request that the Board allow him or her to retake the examination at no additional cost. Individuals in the oral examination process who believe that any of the examiners have been unfair or biased during portions of the oral examination may, immediately upon conclusion of the examination, request of the Executive Director of the Board a reexamination by another examiner using different case protocols covering similar

subject matter. If the Executive Director and the other Officers determine that there are reasonable grounds, the individual shall be reexamined immediately by a Board member. In such instances, only the score given by the re-examiner will be considered.

A copy of the full ABTS Appeals Policy is also available on request from the Board office.

### **CHEMICAL DEPENDENCY**

Otherwise-qualified applicants who have a history of chemical dependency that has been reported to the Board and who submit documentation suitable to the Board that their dependency has been under control for a period of at least two years may be admitted to the examination process.

For candidates who are already in the examination process and who develop a chemical dependency that becomes known to the Board, the process will be suspended until the candidate can provide documentation suitable to the Board that the condition has been under control for a period of two years. At that time, the candidate will be readmitted to the examination process. The requirement to be accepted for examination within a maximum of five years of completion of an approved Congenital Cardiac Surgery residency will not be waived.

### **CERTIFICATION**

After a candidate has met the requirements for eligibility and passed the examination(s), a certificate attesting to the candidate's qualifications in Congenital Cardiac Surgery will be issued by the Board. The certificate issued will be valid through the date of primary certification when the certificate-holder is in compliance with Maintenance of Certification.

### **MAINTENANCE OF CERTIFICATION®**

A valid ABTS primary certificate in thoracic surgery is required for obtaining and maintaining a valid subspecialty certificate in Congenital Cardiac Surgery. The subspecialty certificate in Congenital Cardiac Surgery can be renewed before expiration by fulfilling the requirements for ABTS primary certification through the ABTS Maintenance of Certification (MOC) program. The Congenital Cardiac Surgery MOC Booklet of Information is available on the Board website, [www.abts.org](http://www.abts.org). **RENEWING THE PRIMARY CERTIFICATION THROUGH THE MOC PROCESS WILL ALSO RENEW THE CONGENITAL CARDIAC SURGERY SUBSPECIALTY CERTIFICATION.**

### **DIPLOMATE ANNUAL DUES**

The ABTS annual dues are required of all Diplomates except those who are retired and/or disabled. The fee is cumulative, and a late fee applies. Diplomates must be current with annual dues in order to participate in the MOC process. In addition, the Board will not respond to inquiries about the certification status for Diplomates who are

not current with the fee. Diplomates who are not current with dues and fees are considered to be “not meeting MOC requirements.”

### **DENIAL OR REVOCATION OF CERTIFICATE**

No certificate shall be issued or a certificate may be revoked by the Board if it is determined that:

- a. the candidate for certification or Diplomate did not possess the necessary qualifications and requirements for examination, whether such deficiency was known to the Board or any Committee thereof before examination or at the time of issuance of the certificate as the case may be;
- b. the candidate for certification or Diplomate withheld information in his or her application or made a material misstatement or any other misrepresentation to the Board or any Committee thereof, whether intentional or unintentional;
- c. the candidate for certification or Diplomate was convicted by a court of competent jurisdiction of any felony or misdemeanor involving moral turpitude and, in the opinion of the Board, having a material relationship to the practice of medicine;
- d. the candidate for certification or Diplomate had any license to practice medicine revoked or was ever disciplined or censured by any court or other body having proper jurisdiction and authority because of any act or omission arising from the practice of medicine;
- e. the Diplomate-holder of a subspecialty certificate does not hold a valid primary certificate in thoracic surgery for any reason; or
- f. the candidate for certification or Diplomate had a history of chemical dependency or developed such dependency during the certification process and failed to report same to the Board.

January, 2017

APPENDIX I – Pathway I Operative Log - Summary

## American Board of Thoracic Surgery Congenital Cardiac Surgery Operative Log Summary

Operative experience must include a minimum of 75 major congenital cases where the applicant is acting as “primary surgeon.” In addition, to assure an appropriately diverse distribution of cases, the applicant’s case log can not exceed a maximum of the specified number of indicated cases for credit among the 75 major congenital cases. Where no minimum or maximum number is indicated, all cases that otherwise qualify are considered “for credit” toward the 75 case requirement.

| ABTS Code | Open Operations for Congenital cardiac Disease | Minimum Required | Maximum Allowed |
|-----------|--|------------------|-----------------|
|-----------|--|------------------|-----------------|

**INDEX CASES**

|     |  |   |  |
|-----|--|---|--|
| I-1 | Ventricular Septal Defect repair   | 5 |  |
| I-2 | Atrioventricular Septal Defect repair (complete)   | 2 |  |
| I-2 | Atrioventricular Septal Defect repair (incomplete)   | 2 |  |
| I-3 | Tetralogy of Fallot repair, with or without Pulmonary Atresia  | 4 |  |
| I-4 | Aortic Arch Reconstruction (including Coarctation procedures)  | 4 |  |
| I-5 | Systemic-to-Pulmonary Artery Shunt procedures  | 5 |  |
| I-6 | Any combination of the following to a <b>minimum total of 5</b><br>I-6a Arterial Switch procedure<br>I-6b Norwood procedure<br>I-6c Damus-Kaye-Stansel procedure<br>I-6d Truncus Arteriosus repair | 5 |  |
| I-7 | Any combination of the following Glenn/Fontan procedures to a <b>minimum total of 5</b><br>I-7a Bidirectional Glenn/hemi-Fontan procedure<br>I-7b Fontan procedure                                 | 5 |  |

**OTHER MAJOR CASES**

|      |  |  |    |
|------|--|--|----|
| C-1  | Secundum Atrial Septal Defect/Patent Foramen Ovale closure   |  | 5  |
| C-2  | Atrial Septal Defect (Primum or Sinus Venosus) closure with or without Partial Anomalous Venous Connection |  |    |
| C-3  | Aortopulmonary Window closure  |  |    |
| C-4  | Double Outlet Right Ventricle repair   |  |    |
| C-5  | Mustard or Senning procedure   |  |    |
| C-6  | Rastelli procedure, with or without REV, Nikaidoh procedure  |  |    |
| C-7  | Total Anomalous Venous Connection repair   |  |    |
| C-8  | Partial Anomalous Venous Connection repair   |  |    |
| C-9  | Pulmonary Artery unifocalization   |  |    |
| C-10 | Conduit replacement, isolated  |  | 10 |
| C-11 | Supravalvar Aortic Stenosis repair   |  |    |
| C-12 | Subaortic Stenosis resection; Discrete, Diffuse, Asymmetric Septal Hypertrophy                             |  |    |
| C-13 | Double Chamber Right Ventricle repair; Discrete, Muscular  |  |    |
| C-14 | Anomalous Coronary Artery from the Pulmonary Artery repair   |  |    |
| C-15 | Coarctation/Interrupted Aortic Arch repair, isolated   |  |    |
| C-16 | Cor Triatriatum repair   |  |    |



|      |   |  |   |
|------|---|--|---|
| C-17 | Atrial Septectomy   |  |   |
| C-18 | Sinus of Valsalva Aneurysm/Fistula repair   |  |   |
| C-19 | Pulmonary Artery Banding  |  |   |
| C-20 | Vascular Ring division  |  |   |
| C-21 | Transplant (specify heart, heart/lung)  |  |   |
| C-22 | Patent Ductus Arteriosus ligation or division   |  | 5 |
| C-23 | Other Valve repair or replacement, patients 18 years or under, to a <b>maximum total of 5 for all C-23 cases</b><br>C-23a Aortic Valve repair<br>C-23b Aortic Valve replacement<br>C-23c Mitral Valve repair<br>C-23d Mitral Valve replacement<br>C-23e Tricuspid Valve repair, with or without Ebstein's Anomaly<br>C-23f Tricuspid Valve replacement<br>C-23g Pulmonary Valve repair, w/ or w/o Transannular Patch<br>C-23h Pulmonary Valve replacement |  | 5 |
| C-24 | Arrhythmia Surgery (specify) Note: Pacemaker and ICD implantation are NOT considered "major" cases and do not count toward the case requirement   |  |   |