Purpose of the exam

The exam is designed to evaluate the knowledge, diagnostic reasoning, and clinical judgment skills expected of the certified adult congenital heart disease (ACHD) specialist in the broad domain of the discipline. The ability to make appropriate diagnostic and management decisions that have important consequences for patients will be assessed. The exam may require recognition of common as well as rare clinical problems for which patients may consult an ACHD specialist.

Exam content

Exam content is determined by a pre-established blueprint, or table of specifications. The blueprint is developed by ABIM and is reviewed annually and updated as needed for currency. Trainees, training program directors, and practitioners in the discipline are surveyed periodically to provide feedback and inform the blueprinting process.

The primary medical content categories of the blueprint are shown below, with the percentage assigned to each for a typical exam:

<table>
<thead>
<tr>
<th>Medical Content Category</th>
<th>% of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Embryology and Anatomy</td>
<td>4%</td>
</tr>
<tr>
<td>Clinical Evaluation</td>
<td>10%</td>
</tr>
<tr>
<td>Noninvasive Diagnostic Testing Indications and Interpretation</td>
<td>20%</td>
</tr>
<tr>
<td>Diagnostic and Interventional Cardiac Catheterization</td>
<td>7%</td>
</tr>
<tr>
<td>Arrhythmias</td>
<td>15%</td>
</tr>
<tr>
<td>Congenital Cardiac Surgery</td>
<td>12%</td>
</tr>
<tr>
<td>Heart Failure and Pulmonary Hypertension</td>
<td>10%</td>
</tr>
<tr>
<td>Reproductive Health</td>
<td>5%</td>
</tr>
<tr>
<td>Acquired Cardiovascular Disease and Common Adult Medical Problems</td>
<td>5%</td>
</tr>
<tr>
<td>Extracardiac Manifestations of Congenital Heart Disease</td>
<td>7%</td>
</tr>
<tr>
<td>Life and Health Management</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>
ABIM is committed to working toward health equity and believes that board-certified physicians should have an understanding of health care disparities. Therefore, health equity content that is clinically important to each discipline will be included in assessments, and the use of gender, race, and ethnicity identifiers will be re-evaluated.

Exam format

The exam is composed of up to 240 single-best-answer multiple-choice questions, of which approximately 40 are new questions that do not count in the examinee’s score. Most questions describe patient scenarios and ask about the work done (that is, tasks performed) by physicians in the course of practice:

- Making a diagnosis
- Ordering and interpreting results of tests
- Recommending treatment or other patient care
- Assessing risk, determining prognosis, and applying principles from epidemiologic studies
- Understanding the underlying pathophysiology of disease and basic science knowledge applicable to patient care

Clinical information presented may include patient photographs, radiographs, electrocardiograms, recordings of heart or lung sounds, and other media to illustrate relevant patient findings. Learn more information on how exams are developed.

A tutorial including examples of ABIM exam question format can be found at http://www.abim.org/certification/exam-information/adult-congenital-heart-disease/exam-tutorial.

The blueprint can be expanded for additional detail as shown below. Each of the medical content categories is listed there, and below each major category are the content subsections and specific topics that may appear in the exam. Please note: actual exam content may vary.

<table>
<thead>
<tr>
<th>Embryology and Anatomy</th>
<th>4% of Exam</th>
</tr>
</thead>
</table>

**Normal and abnormal development**

- Situs abnormalities
- Venous connections
- Atrioventricular connections
- Septal defects
- Looping
- Conotruncal defects
- Conduction systems
- Coronaries
- Other normal and abnormal development
Genetic syndromes and associations

Down
DiGeorge and VACTERL
Williams
Turner
Noonan
Holt-Oram
Alagille
Other genetic syndromes and associations

Clinical Evaluation 10% of Exam

History 2.5%
Symptoms
Surgical
Interventional
Reproductive
Social
Family
Other history

Physical examination 7.5%
Septal defects
Patent ductus arteriosus
Coarctation of the aorta
Left ventricular outflow tract obstruction
Pulmonary stenosis
Tetralogy of Fallot
Dextro-transposition of the great arteries
Congenitally corrected transposition of the great arteries
Single ventricle/Fontan
Truncus arteriosus
Pulmonary hypertension/Eisenmenger syndrome
Ebstein anomaly
Other physical examination

Noninvasive Diagnostic Testing – Indications and Interpretation 20% of Exam

Electrocardiography 2%
Wolff-Parkinson-White syndrome
Ebstein anomaly
Congenitally corrected transposition of the great arteries
Primum atrial septal defect
Systemic right ventricle
Tetralogy of Fallot
Other electrocardiography

**Chest radiography**
- New diagnosis
- Post interventional catheterization/electrophysiology
- Post surgical
- Other chest radiography

**Transthoracic and transesophageal echocardiography**
- Indications
- Septal defects
- Patent ductus arteriosus
- Coarctation of the aorta
- Left ventricular outflow tract obstruction
- Pulmonary stenosis
- Tetralogy of Fallot
- Dextro-transposition of the great arteries
- Congenitally corrected transposition of the great arteries
- Single ventricle/Fontan
- Truncus arteriosus
- Pulmonary hypertension/Eisenmenger syndrome
- Ebstein anomaly
- Coronary anomalies – origin and course
- Other echocardiography

**Magnetic resonance imaging**
- Indications and contraindications
- Sinus venosus atrial septal defect
- Anatomy of pulmonary artery and vein
- Coarctation of the aorta
- Aortopathy
- Tetralogy of Fallot
- Dextro-transposition of the great arteries
- Congenitally corrected transposition of the great arteries
- Single ventricle/Fontan
- Truncus arteriosus
- Coronary anomalies – origin and course
- Other magnetic resonance imaging
**Computed tomography**  <2%
- Indications and contraindications
- Coronary arterial and venous anatomy
- Stents
- Other computed tomography

**Stress testing**  <2%
- Electrocardiography
- Cardiopulmonary exercise test
- Other stress testing

**Nuclear lung perfusion**  <2%

<table>
<thead>
<tr>
<th>Diagnostic and Interventional Cardiac Catheterization</th>
<th>7% of Exam</th>
</tr>
</thead>
</table>

**Diagnostic indications**  <2%
- Fontan
- Shunt lesions
- Pulmonary hypertension
- Coronary anomalies and coronary artery disease
- Inconclusive noninvasive imaging
- Other diagnostic indications

**Procedural considerations**  <2%
- Safety
- Access
- Other procedural considerations

**Hemodynamic**  <2%
- Vasoreactivity testing
- Pressure tracing
- Calculations
- Other hemodynamic

**Angiography**  <2%
- Coronary anomalies and acquired diseases
- Coarctation of the aorta
- Ventriculography
- Collaterals
- Single ventricle/Fontan
- Dextro-transposition of the great arteries
- Other angiography

**Interventional**  3.5%
- Indications
- Device closure of shunts
Valvuloplasty/Angioplasty
Stents
Coils
Valve replacement
Other interventional

<table>
<thead>
<tr>
<th>Arrhythmias</th>
<th>15% of Exam</th>
</tr>
</thead>
</table>

**Naturally acquired**
- Atrioventricular block
- Wolff-Parkinson-White syndrome
- Other naturally acquired

**Postoperative**
- Atrioventricular node block
- Sinoatrial node
- Atrial flutter/intra-atrial re-entrant tachycardia
- Ventricular tachycardia, ventricular flutter, sudden cardiac death
- Atrial fibrillation
- Junctional ectopic tachycardia (JET)
- Other postoperative

**Medical management**
- Antiarrhythmic medication
- Anticoagulation
- Other medical management

**Electrophysiology and ablation**
- Indications
- Outcomes
- Other electrophysiology and ablation

**Arrhythmia surgery**
- Indications
- Outcomes
- Other arrhythmia surgery

**Devices**
- Indications
- Outcomes
- Implantable cardioverter-defibrillator
- Pacer
- Cardiac resynchronization therapy
- Other devices
Indications and risks

Septal defects
Coarctation of the aorta
Left ventricular outflow tract obstruction
Tetralogy of Fallot
Dextro-transposition of the great arteries
Congenitally corrected transposition of the great arteries
Single ventricle/Fontan
Truncus arteriosus
Ebstein anomaly
Coronary anomalies – origin and course
Right ventricular outflow tract
Valve replacement
Other indications and risks

Types

Coarctation of the aorta
Systemic to pulmonary artery shunts
Blalock-Hanlon
Atrial switches
Arterial switches
Rastelli
Ross procedure
Glenn/Fontan
Warden
Conduits
Septal defect repair
Tetralogy of Fallot repair
Valve replacement
Truncus arteriosus repair
Pulmonary artery banding
Other types

Perioperative assessment and management

Access
Coronary angiography
Assessment of comorbidities
Other perioperative assessment and management
Postoperative complications, residua, and sequelae 6%

Acute postoperative complications
- Cardiac
- Noncardiac
- Other complications of ACHD surgery

Long-term residua and sequelae
- Left-to-right shunts
- Coarctation of the aorta
- Left ventricular outflow tract obstruction
- Right ventricular outflow tract obstruction
- Tetralogy of Fallot
- Dextro-transposition of the great arteries
- Congenitally corrected transposition of the great arteries
- Single ventricle/Fontan
- Truncus arteriosus
- Ebstein anomaly
- Coronary anomalies
- Other long-term residua and sequelae
- Other complications, residua, and sequelae

Heart Failure and Pulmonary Hypertension 10% of Exam

Evaluation of heart failure 4%
- Etiology
- Clinical examination
- Biomarkers
- Imaging
- Functional testing
- Catheterization
- Other heart failure evaluation

Medical management of heart failure <2%
- Heart failure medications
- Arrhythmia treatment
- Other heart failure medical management

Intervention for heart failure <2%
- Surgery
- Interventional catheterization
- Transplant
- Mechanical circulatory support
- Other heart failure intervention
Evaluation of pulmonary hypertension 2%
Etiology
Clinical examination
Biomarkers
Imaging
Functional testing
Cardiac catheterization
Other pulmonary hypertension evaluation

Pulmonary arterial hypertension–specific therapies <2%

Reproductive Health 5% of Exam
Pregnancy 3.5%
Risk assessment and preconception counseling
Management during pregnancy
Peripartum care
Other pregnancy
Genetic counseling <2%
Contraception <2%
Types and indications
Risks
Other contraception
Sexual dysfunction <2%

Acquired Cardiovascular Disease and Common Adult Medical Problems 5% of Exam
Acute and long-term ischemic heart disease <2%
Risk factors
Recognition
Evaluation
Management
Other ischemic heart disease
Heart failure <2%
Recognition and evaluation
Medical therapy
Role of device therapy
Other heart failure
Noncardiac surgery <2%
Risk assessment
Perioperative management
Other noncardiac surgery
## Adult medical issues
- Syndromic patients
- Sleep apnea
- Hypertension
- Obesity
- Lung disease
- Renal function
- Neurologic
- Liver disease
- Other adult medical issues

## Endocarditis prophylaxis and management
- <2%

## Extracardiac Manifestations of Congenital Heart Disease
- 7% of Exam

<table>
<thead>
<tr>
<th>Manifestation</th>
<th>% of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liver</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Protein-losing enteropathy</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Venous insufficiency</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Thromboembolic</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Collaterals</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Cyanotic congenital heart disease</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>- Hematologic</td>
<td></td>
</tr>
<tr>
<td>- Gout</td>
<td></td>
</tr>
<tr>
<td>- Embolism</td>
<td></td>
</tr>
<tr>
<td>- Brain abscess</td>
<td></td>
</tr>
<tr>
<td>- Other cyanotic congenital heart disease</td>
<td></td>
</tr>
<tr>
<td>Infection risks</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Vascular rings and slings</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Lung</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Kidney</td>
<td>&lt;2%</td>
</tr>
</tbody>
</table>

## Life and Health Management
- 5% of Exam

<table>
<thead>
<tr>
<th>Management</th>
<th>% of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercise and athletic participation</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>- Promotion</td>
<td></td>
</tr>
<tr>
<td>- Limitations</td>
<td></td>
</tr>
<tr>
<td>- Other exercise and athletic participation</td>
<td></td>
</tr>
<tr>
<td>Recognition of psychosocial/neurocognitive/mood disorders</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Access and delivery of care</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Transition education</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>- Best practices</td>
<td></td>
</tr>
<tr>
<td>- Employability and insurability</td>
<td></td>
</tr>
<tr>
<td>- Other transition education</td>
<td></td>
</tr>
</tbody>
</table>
End-of-life/Advance directives

July 2023