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>
</tbody>
</table>

100%
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 https://www.abim.org/maintenance-of-certification/assessment-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>
<tbody>
<tr>
<td><strong>Normal and abnormal development</strong></td>
<td>2%</td>
</tr>
<tr>
<td>Situs abnormalities</td>
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<tr>
<td>Venous connections</td>
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<tr>
<td>Atrioventricular connections</td>
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<tr>
<td>Septal defects</td>
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<tr>
<td>Looping</td>
<td></td>
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<tr>
<td>Conotruncal defects</td>
<td></td>
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<tr>
<td>Conduction systems</td>
<td></td>
</tr>
<tr>
<td>Coronaries</td>
<td></td>
</tr>
<tr>
<td>Other normal and abnormal development</td>
<td></td>
</tr>
</tbody>
</table>
**Genetic syndromes and associations**

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

<table>
<thead>
<tr>
<th>Clinical Evaluation</th>
<th>10% of Exam</th>
</tr>
</thead>
</table>

**History**

- Symptoms
- Surgical
- Interventional
- Reproductive
- Social
- Family
- Other history

**Physical examination**

- 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

<table>
<thead>
<tr>
<th>Noninvasive Diagnostic Testing – Indications and Interpretation</th>
<th>20% of Exam</th>
</tr>
</thead>
</table>

**Electrocardiography**

- Wolff-Parkinson-White syndrome
- Ebstein anomaly

- Genetic syndromes and associations
- Clinical Evaluation
- History
- Physical examination
- Noninvasive Diagnostic Testing – Indications and Interpretation
- Electrocardiography
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**
- Indications and contraindications
- Coronary arterial and venous anatomy
- Stents
- Other computed tomography

**Stress testing**
- Electrocardiography
- Cardiopulmonary exercise test
- Other stress testing

**Nuclear lung perfusion**

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### Diagnostic and Interventional Cardiac Catheterization

#### Diagnostic indications
- Fontan
- Shunt lesions
- Pulmonary hypertension
- Coronary anomalies and coronary artery disease
- Inconclusive noninvasive imaging
- Other diagnostic indications

#### Procedural considerations
- Safety
- Access
- Other procedural considerations

#### Hemodynamic
- Vasoreactivity testing
- Pressure tracing
- Calculations
- Other hemodynamic

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

#### Interventional
- Indications
- Device closure of shunts

---

**7% of Exam**
Valvuloplasty/Angioplasty
Stents
Coils
Valve replacement
Other interventional

<table>
<thead>
<tr>
<th>Arrhythmias</th>
<th>15% of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Naturally acquired</strong></td>
<td>&lt;2%</td>
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<tr>
<td>Atrioventricular block</td>
<td></td>
</tr>
<tr>
<td>Wolff-Parkinson-White syndrome</td>
<td></td>
</tr>
<tr>
<td>Other naturally acquired</td>
<td></td>
</tr>
<tr>
<td><strong>Postoperative</strong></td>
<td>5.5%</td>
</tr>
<tr>
<td>Atrioventricular node block</td>
<td></td>
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<tr>
<td>Sinoatrial node</td>
<td></td>
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<tr>
<td>Atrial flutter/intra-atrial re-entrant tachycardia</td>
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</tr>
<tr>
<td>Ventricular tachycardia, ventricular flutter, sudden cardiac death</td>
<td></td>
</tr>
<tr>
<td>Atrial fibrillation</td>
<td></td>
</tr>
<tr>
<td>Junctional ectopic tachycardia (JET)</td>
<td></td>
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<tr>
<td>Other postoperative</td>
<td></td>
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<tr>
<td><strong>Medical management</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Antiarrhythmic medication</td>
<td></td>
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<tr>
<td>Anticoagulation</td>
<td></td>
</tr>
<tr>
<td>Other medical management</td>
<td></td>
</tr>
<tr>
<td><strong>Electrophysiology and ablation</strong></td>
<td>3%</td>
</tr>
<tr>
<td>Indications</td>
<td></td>
</tr>
<tr>
<td>Outcomes</td>
<td></td>
</tr>
<tr>
<td>Other electrophysiology and ablation</td>
<td></td>
</tr>
<tr>
<td><strong>Arrhythmia surgery</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Indications</td>
<td></td>
</tr>
<tr>
<td>Outcomes</td>
<td></td>
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<tr>
<td>Other arrhythmia surgery</td>
<td></td>
</tr>
<tr>
<td><strong>Devices</strong></td>
<td>3%</td>
</tr>
<tr>
<td>Indications</td>
<td></td>
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<tr>
<td>Outcomes</td>
<td></td>
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<tr>
<td>Implantable cardioverter-defibrillator</td>
<td></td>
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<tr>
<td>Pacer</td>
<td></td>
</tr>
<tr>
<td>Cardiac resynchronization therapy</td>
<td></td>
</tr>
<tr>
<td>Other devices</td>
<td></td>
</tr>
</tbody>
</table>
Congenital Cardiac Surgery  

Indications and risks  

3%  

- 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  

2%  

- 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  

<2%  

- 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
  Intervventional catheterization
  Transplant
  Mechanical circulatory support
  Other heart failure intervention
**Evaluation of pulmonary hypertension**  
- Etiology  
- Clinical examination  
- Biomarkers  
- Imaging  
- Functional testing  
- Cardiac catheterization  
- Other pulmonary hypertension evaluation

**Pulmonary arterial hypertension–specific therapies**  
<2%

<table>
<thead>
<tr>
<th>Reproductive Health</th>
<th>5% of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pregnancy</strong></td>
<td>3.5%</td>
</tr>
<tr>
<td>Risk assessment and preconception counseling</td>
<td></td>
</tr>
<tr>
<td>Management during pregnancy</td>
<td></td>
</tr>
<tr>
<td>Peripartum care</td>
<td></td>
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<tr>
<td>Other pregnancy</td>
<td></td>
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<tr>
<td><strong>Genetic counseling</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td><strong>Contraception</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Types and indications</td>
<td></td>
</tr>
<tr>
<td>Risks</td>
<td></td>
</tr>
<tr>
<td>Other contraception</td>
<td></td>
</tr>
<tr>
<td><strong>Sexual dysfunction</strong></td>
<td>&lt;2%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Acquired Cardiovascular Disease and Common Adult Medical Problems</th>
<th>5% of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute and long-term ischemic heart disease</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Risk factors</td>
<td></td>
</tr>
<tr>
<td>Recognition</td>
<td></td>
</tr>
<tr>
<td>Evaluation</td>
<td></td>
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<tr>
<td>Management</td>
<td></td>
</tr>
<tr>
<td>Other ischemic heart disease</td>
<td></td>
</tr>
<tr>
<td><strong>Heart failure</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Recognition and evaluation</td>
<td></td>
</tr>
<tr>
<td>Medical therapy</td>
<td></td>
</tr>
<tr>
<td>Role of device therapy</td>
<td></td>
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<tr>
<td>Other heart failure</td>
<td></td>
</tr>
<tr>
<td><strong>Noncardiac surgery</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Risk assessment</td>
<td></td>
</tr>
<tr>
<td>Perioperative management</td>
<td></td>
</tr>
<tr>
<td>Other noncardiac surgery</td>
<td></td>
</tr>
</tbody>
</table>


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

- Liver  
  - Protein-losing enteropathy  <2%
  - Venous insufficiency  <2%
  - Thromboembolic  <2%
- Collaterals  <2%
- Cyanotic congenital heart disease  <2%
  - Hematologic
  - Gout
  - Embolism
  - Brain abscess
  - Other cyanotic congenital heart disease
- Infection risks  <2%
- Vascular rings and slings  <2%
- Lung  <2%
- Kidney  <2%

### Life and Health Management 5% of Exam

- Exercise and athletic participation  <2%
  - Promotion
  - Limitations
  - Other exercise and athletic participation
- Recognition of psychosocial/neurocognitive/mood disorders  <2%
- Access and delivery of care  <2%
- Transition education  <2%
  - Best practices
  - Employability and insurability
  - Other transition education
End-of-life/Advance directives  

July 2023