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COLLEGE *of*
CARDIOLOGY

The ACC Cardiovascular Overview and Board Review Course for Certification and Recertification

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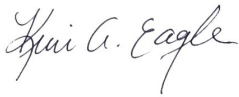
Use, Plan,
Prioritize,
Study

Use, Plan, Prioritize and Study

Dear Learner,

Because each of us works in a unique environment with unique patients and educators, our fund of knowledge and experience is naturally strong in some areas, and less robust in others. I suggest that you review all content areas, but really repetitively study those areas where you see fewer patients and/or have had less dedicated education.

Best Wishes and Good Luck!



Kim A. Eagle, MD, MACC



Patrick T. O'Gara, MD, MACC

Have questions or need advice before the exam?

Wamique Yusuf, MD, FACC, one of the Course Co-directors from the Cardiovascular Board Review course is happy to help. You may reach him at syusuf@mdanderson.org.

Study Tip:

Prepare separately for the MCQ and imaging portion of the exam.

Wamique S. Yusuf, MD, MACC
Course Co-director

Study Tip:

Use the ABIM Blueprint to develop your study plan-of-action over the next two weeks.

Cardiovascular Disease

Certification Examination Blueprints

Blueprint for the Full-Day, Multiple-Choice Questions Component of the Exam:

Purpose of the exam

The exam is designed to evaluate the knowledge, diagnostic reasoning, and clinical judgment skills expected of the certified cardiovascular disease 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 a certified cardiovascular disease 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 certified 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:

Medical Content Category	% of Exam
Arrhythmias	15%
Coronary Artery Disease	23%
Heart Failure and Cardiomyopathy	17%
Valvular Disease	15%
Pericardial Disease	4%
Congenital Heart Disease	5%
Vascular Diseases	6%
Systemic Hypertension and Hypotension	7%
Pulmonary Circulation Disorders	5%
Systemic Disorders Affecting the Circulatory System	3%
	100%

Exam questions in the content areas above may also address clinical topics in:

- Preventive and rehabilitative cardiology
- Cardiovascular disease in women
- Geriatric cardiovascular disease
- Preoperative assessment for noncardiac surgery
- Postoperative cardiac care
- Critical care medicine, cardiovascular surgery, and general internal medicine as encountered in the practice of cardiology (including some general pediatrics with an emphasis on adolescent medicine)

Exam format

The exam is composed of multiple-choice questions with a single best answer, predominantly describing patient scenarios. Questions 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

Some questions require interpretation of pictorial material including electrocardiograms, intracardiac electrograms, hemodynamic recordings, chest radiographs, photomicrographs, and imaging studies such as coronary angiograms, echocardiograms, ventriculograms, myocardial perfusion studies, computed tomographs, magnetic resonance images, and intravascular ultrasound images. Some questions may also require recognition and interpretation of recorded heart sounds.

A tutorial including examples of ABIM exam question format can be found at

<http://www.abim.org/certification/exam-information/cardiovascular-disease/exam-tutorial.aspx>.

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.

Arrhythmias**15%** of Exam**Atrioventricular conduction disease**

2%

- Atrioventricular block, 1st degree
- Atrioventricular block, 2nd degree
- Atrioventricular block, complete
- Left bundle branch block
- Right bundle branch block
- Left anterior fascicular block
- Left posterior fascicular block
- Atrioventricular conduction disease, not further specified

Sinus node dysfunction

<2%

- Sinus bradycardia
- Sinoatrial block
- Sinus pauses
- Bradycardia-tachycardia syndrome
- Sinus node dysfunction, not further specified

Supraventricular arrhythmias

2%

- Atrioventricular reentrant nodal tachycardia
- Pre-excitation syndromes (including Wolff-Parkinson-White)
- Nonparoxysmal atrioventricular nodal tachycardia
- Atrioventricular reciprocating tachycardia

Ventricular arrhythmias

2%

- Ventricular tachycardia, monomorphic
- Ventricular tachycardia, polymorphic
 - With prolonged Q-T interval
 - Without prolonged Q-T interval
- Ventricular fibrillation (including idiopathic and non-idiopathic varieties)
- Ventricular flutter
- Ventricular arrhythmias, not further specified

Atrial arrhythmias

4%

- Paroxysmal atrial fibrillation
- Persistent atrial fibrillation
- Permanent atrial fibrillation
- Atrial fibrillation, not further specified
- Typical atrial flutter (Type I)
- Atypical atrial flutter (Type II)
- Non-isthmus-dependent atrial flutter
- Atrial tachycardia
- Ectopic atrial rhythms

Channelopathies	<2%
Long Q-T syndrome	
Brugada syndrome	
Short Q-T syndrome	
Early repolarization syndrome	
Sudden cardiac death	<2%
Syncope	<2%

Coronary Artery Disease	23% of Exam
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Angina pectoris	5.5%
Unstable angina	
Angina with documented spasm	
Angina equivalent	
Angina of effort	
Angina, not further specified	
Type II myocardial infarction (low-level cardiac troponin elevations)	
Chronic ischemic heart disease	5.5%
Coronary atherosclerosis	
Remote myocardial infarction	
Aneurysm of the heart	
Coronary artery aneurysm	
Silent myocardial ischemia	
Acute myocardial infarction	10%
STEMI of the anterior wall	
STEMI of the inferior wall	
STEMI of the lateral wall	
STEMI of the posterior wall (including inferoposterior wall)	
Non-STEMI	
Acute myocardial infarction, not further specified	
Early complications following acute myocardial infarction	<2%
Hemopericardium	
Ventricular septal defect	
Rupture of the cardiac wall	
Rupture of papillary muscle	
Postinfarction angina	
Postinfarction arrhythmias	
Left ventricular pseudoaneurysm	
Dynamic left ventricular outflow tract obstruction	
Postinfarction systolic heart failure	

Acute ischemic heart disease, non-angina and non-myocardial infarction	<2%
Atypical chest pain	
Dressler's syndrome	

Heart Failure and Cardiomyopathy	17% of Exam
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Heart failure	8%
Acute decompensated ventricular failure	
Systolic heart failure (heart failure with reduced ejection fraction)	
Diastolic heart failure (heart failure with preserved ejection fraction)	
Combined systolic heart failure and diastolic heart failure	
Cardiomyopathies	8%
Dilated cardiomyopathies	
Hypertrophic cardiomyopathies	
Restrictive and infiltrative cardiomyopathies	
Chemotherapy-related cardiomyopathy	
Stress-induced cardiomyopathy (takotsubo syndrome)	
Myocarditis	
Noncompaction cardiomyopathy	
Arrhythmogenic right ventricular dysplasia	
Transplanted heart	<2%

Valvular Disease	15% of Exam
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Mitral valve disorders	5%
Mitral valve regurgitation, native	
Mitral valve stenosis, native	
Mitral valve prolapse, native	
Prosthetic mitral valve	
Aortic valve disorders	4%
Aortic valve regurgitation, native	
Aortic valve stenosis, native	
Prosthetic aortic valve	
Tricuspid valve disorders	2%
Tricuspid valve regurgitation, native	
Tricuspid valve stenosis, native	
Prosthetic tricuspid valve	

Pulmonary valve disorders	<2%
Pulmonary valve regurgitation, native	
Pulmonary valve stenosis, native	
Prosthetic pulmonary valve	
Endocarditis	<2%
Cardiac murmurs and other cardiac sounds	<2%

Pericardial Disease	4% of Exam
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Acute pericarditis	<2%
Chronic pericarditis (including relapsing)	<2%
Postpericardiotomy syndrome	<2%
Pericardial constriction and effusion	<2%
Pericardial effusion	
Cardiac tamponade	
Constrictive pericarditis	
Effusive-constrictive pericarditis	
Absence of pericardium	<2%
Pericardial cysts	<2%

Congenital Heart Disease	5% of Exam
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Congenital malformations of cardiac chambers and connections	<2%
Complete transposition of the great vessels	
Corrected transposition of the great vessels	
Tricuspid atresia	
Anomalous origin of coronary artery	
Congenital malformations of cardiac septa	<2%
Ventricular septal defect	
Atrial septal defect	
Patent foramen ovale	
Atrioventricular septal defect	
Tetralogy of Fallot	
Eisenmenger syndrome	
Congenital malformations of pulmonary and tricuspid valves	<2%
Congenital pulmonary valve stenosis	
Ebstein anomaly	
Congenital malformations of aortic and mitral valves	<2%
Bicuspid aortic valve	
Other congenital malformations of the heart	<2%
Dextrocardia	
Congenital heart block	

Congenital malformations of the great arteries	<2%
Patent ductus arteriosus	
Coarctation of the aorta	
Aneurysm of the sinus of Valsalva	
Congenital malformation of the aortic arch	
Pulmonary artery malformation	
Congenital malformations of the great veins	<2%
Persistent left superior vena cava	
Anomalous pulmonary venous connections	
Congenital disorders with cardiovascular implications	<2%
Marfan syndrome	

Vascular Diseases	6% of Exam
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Cerebrovascular diseases	<2%
Cerebral infarction	
Hypertensive encephalopathy	
Carotid atherosclerosis	
Subclavian steal syndrome with vertebral artery steal	
Carotid artery dissection	
Diseases of the arteries, arterioles, and capillaries	3%
Peripheral atherosclerosis	
Aortic aneurysm and dissection	
Raynaud's phenomenon	
Thromboangiitis obliterans (Buerger's disease)	
Claudication	
Acute limb ischemia	
Critical limb ischemia	
Atheroembolism	
Septic arterial embolism	
Polyarteritis nodosa	
Mucocutaneous lymph node syndrome (Kawasaki disease)	
Takayasu arteritis	
Giant cell arteritis with polymyalgia rheumatica	
Mesenteric arterial insufficiency	
Subclavian steal syndrome with internal mammary artery steal	
Diseases of the veins, lymphatic vessels, and lymph nodes	<2%
Deep vein thrombosis	
Portal vein thrombosis	
Iliac vein compression syndrome (May-Thurner syndrome)	
Varicose veins of the lower extremities	

Chronic venous insufficiency
 Chronic idiopathic venous hypertension
 Lymphedema

Systemic Hypertension and Hypotension	7% of Exam
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Hypertensive diseases	6%
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Essential (primary) hypertension
 Hypertensive heart disease
 Hypertensive chronic kidney disease
 Severe or resistant hypertension
 Malignant hypertension
 Secondary hypertension
 Hypertension in pregnancy

Hypotensive diseases	<2%
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Hypotension
 Cardiogenic shock

Pulmonary Circulation Disorders	5% of Exam
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Pulmonary embolism	2%
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Pulmonary embolism with acute cor pulmonale
 Pulmonary embolism without acute cor pulmonale
 Chronic pulmonary embolism

Pulmonary hypertension	3%
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Pulmonary arterial hypertension (WHO Group 1)
 Pulmonary hypertension associated with other diseases
 (WHO Groups 2–5)

Systemic Disorders Affecting the Circulatory System	3% of Exam
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Musculoskeletal and connective tissue	<2%
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Systemic lupus erythematosus
 Systemic sclerosis

Nervous system	<2%
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Transient cerebral ischemic attacks and related syndromes
 Sleep apnea

Neoplasms	<2%
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Malignant neoplasm of the heart and pericardium
 Benign neoplasms (including myxoma, fibroma,
 and fibroelastoma)

Endocrine, nutritional, metabolic, and hematologic disorders	<2%
Lipidemias	
Hypovolemia	
Acidosis	
Metabolic syndrome	
Electrolyte abnormalities	
Thyroid and adrenal disease	
Hematologic disorders	
Renal disorders	<2%
Injury and poisoning	<2%
Toxic effects of alcohol	
Toxic effects of cocaine	
Toxic effects of tobacco and nicotine	
Toxic effects of radiation	
Hypothermia	
Anaphylactic shock	
Angioedema	

January, 2017

Blueprint for the Half-Day, Electrocardiograms and Imaging Studies Component of the Exam:**Purpose of the exam**

The exam is designed to evaluate the abilities expected of the certified cardiovascular disease specialist to interpret electrocardiograms and imaging studies. The ability to make appropriate diagnostic 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 a certified cardiovascular disease 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 certified practitioners in the discipline are surveyed periodically to provide feedback and inform the blueprinting process.

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

Content Category	% of Exam
Electrocardiograms	48%
Echocardiograms	37%
Coronary Angiograms	15%
	100%

Exam format

Special question formats are used, requiring diagnostic interpretation of electrocardiograms, echocardiograms, and coronary angiograms. The format comprises a brief patient description and one (or multiple) images. To see examples of the answer options lists, view the [Sample Cases - Electrocardiograms and Imaging Studies \(pdf\)](http://www.abim.org/pdf/cert-related/cvd_sample_cases.pdf): http://www.abim.org/pdf/cert-related/cvd_sample_cases.pdf.

The [interactive exam tutorial](http://www.abim.org/exam/prepare.aspx) allows you to practice navigating the answer option lists.
<http://www.abim.org/exam/prepare.aspx>

The blueprint can be expanded for additional detail as shown below. Each of the 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.

Electrocardiograms	48% of Exam
General features	2.5 %
P wave abnormalities	<2%
Rhythms	10.5%
Atrial rhythms	
Atrioventricular junctional rhythms	
Ventricular rhythms	
Atrioventricular conduction	6%
Abnormal QRS voltage or axis	3%
Ventricular hypertrophy	<2%
Intraventricular conduction	4.5%
Myocardial infarction	7.5%
S-T, T, and U wave abnormalities	4.5%
Clinical disorders	5%
Pacemaker function	3%
Echocardiograms	37% of Exam
Left ventricular size, function, and structure	11%
Right ventricular size, function, and structure	<2%
Diseases of the atria	<2%
Valvular heart disease	11%
Cardiomyopathy	4%
Systemic disease	<2%
Pulmonary disease	<2%
Diseases of the aorta	2%
Pericardial and pleural diseases	3%
Congenital heart disease	<2%
Coronary Angiograms	15% of Exam
Normal	<2%
Stenoses	3%
Insignificant stenosis	
Moderate stenosis	
Severe stenosis	
Total occlusion	

Filled by collateral vessels	<2%
Spasm	<2%
Thrombus	<2%
Myocardial bridge	<2%
Anomalous origin	<2%
Fistula	<2%
Aneurysm	<2%
Bypass graft	<2%
Dissection	<2%
Stents	<2%
Patent stent	
Occluded stent	

January, 2017

ARE YOU READY?

Cardiovascular Disease Certification Exam Tutorial

ABIM strongly urges you to take the online tutorial before taking your exam. Becoming familiar with the exam will greatly improve your efficiency on exam day. Tutorials take about 30 minutes to complete and give you the opportunity to:

- View the exam interface
- Practice using the exam features including notes, strikethrough, and highlight
- Access exam resources including tables of normal laboratory values
- Mark questions for review and gain familiarity with the navigator functionality
- Become aware of exam-specific innovations

Complete both to prepare for exam.

- Cardiovascular Disease exam multiple choice tutorial
- ECG and Imaging Studies tutorial



*Scan to take the
ABIM Practice Exam*

ABIM Category Distribution

Listed below are the major medical content categories that define the domain for the Cardiovascular Disease ABIM Certification exam. The relative distribution of content is expressed as a percentage of the total exam.

On the following pages, category assignments have been set up for each of the below and are in the order of significance on the exam. Good luck and Study Strong!

CONTENT CATEGORY	Blueprint target %	
	Previous MOC exams	Beginning with Fall 2016 exam
Arrhythmias	15%	16%
Coronary Artery Disease	23%	23%
Heart Failure and Cardiomyopathy	17%	19%
Vascular Disease	15%	14%
Pericardial Disease	4%	3%
Congenital Heart Disease	5%	3%
Vascular Diseases	6%	5%
Systemic Hypertension and Hypotension	7%	8%
Pulmonary Circulation Disorders	5%	4%
Systemic Disorders Affecting the Circulatory System	3%	5%
Total	100%	100%

Month *September*

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
				1	2	3
4	5 ACC Board Review Course	6 ACC Board Review Course	7 ACC Board Review Course	8 ACC Board Review Course	9 ACC Board Review Course	10 Download slides from course (see below)
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26 Exam Day!	27 Exam Day!	28	29	30	

Faculty presentation materials are available to you in pdf format.

First, log into ACC.org

Then go to ACC.org/cvboard2017

Scroll to the bottom of the page and expand the last tab entitled: "Presentation Slides".

Note: Presentation materials are only available after you have logged into ACC.org

Weekoverview

TOP FOCUS PER DAY
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WEEK OF: _____

MONDAY	TUESDAY	WEDNESDAY	THURSDAY
FRIDAY	SATURDAY	SUNDAY	NOTES

Additional Notes

Weekoverview

TOP FOCUS PER DAY
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▪
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WEEK OF: _____

MONDAY	TUESDAY	WEDNESDAY	THURSDAY
FRIDAY	SATURDAY	SUNDAY	NOTES

Additional Notes
