



Interventional Cardiology Certification Examination Blueprint

What Does the Examination Cover?

The exam is designed to evaluate the extent of the candidate's knowledge and clinical judgment in the areas in which an interventional cardiologist should demonstrate a high level of competence. Expertise in the broad domain of interventional cardiology will be assessed, including diagnosis and management of both common and rare conditions that have important consequences for patients and understanding and integration of results of significant clinical trials.

Exam content is consistent with a pre-established blueprint, or table of specifications, developed by the Interventional Cardiology Test Committee and used as a guide in exam preparation. The blueprint is reviewed and revised annually to ensure that it is current. In addition, practicing interventional cardiologists, trainees in interventional cardiology, and training program directors are surveyed periodically to provide feedback on the blueprinting process.

The majority of questions are based on patient presentations occurring in settings that reflect current medical practice. Questions requiring simple recall of medical facts are in the minority; the majority of questions require integration of information, prioritization of alternatives, and/or utilization of clinical judgment in reaching a correct conclusion. Some questions require interpretation of pictorial material, such as coronary angiograms, ventriculograms, intravascular ultrasound images, nuclear perfusion studies, computed tomograms, magnetic resonance images, electrocardiograms, echocardiograms, and peripheral vascular imaging studies.

The content areas covered and their relative proportions on the exam are as follows:

Medical Content Category	Relative Percentage
Case Selection and Management	25%
Procedural Techniques	25%
Basic Science	15%
Pharmacology	15%
Imaging	15%
Miscellaneous	5%
Total	100%

Content Outline of the Certification Examination

This content outline describes a *typical* Interventional Cardiology Certification Examination; actual content on a specific examination may vary. Each medical content category from the examination blueprint is listed in boldface below, along with target blueprint percentage and total number of questions in the category. Within each category, the approximate distribution of questions in specified areas is also listed.

Medical Content Category (Relative Percentage)	Number of Questions
Case Selection and Management (25%)	43-47 as follows:
Chronic ischemic heart disease: catheter-based interventions (angioplasty, stent, IVUS, other devices; selection of treatment modality (interventional, surgical, medical)	13-15
Acute coronary syndromes and acute myocardial infarction: catheter-based interventions (angioplasty, pressure wire/FFR assessment, IVUS, thrombectomy); selection of treatment modality (interventional, surgical, medical)	13-15
Recognition and management of hemodynamic compromise: pharmacologic agents; devices and procedures. Includes balloon counterpulsation, emergency pacing, pericardiocentesis, stent placement, and therapeutic hypothermia	3-5
Catheter-based management in valvular disorders (mitral, aortic, and pulmonary) and in hypertrophic cardiomyopathy, including clinical, invasive, and noninvasive findings that differentiate patients who require surgical rather than percutaneous approaches	3-5
Catheter-based management of adult congenital heart disease	3-5
Interventional approaches to peripheral vascular disease, focusing primarily on diagnosis and patient selection	3-5

Procedural Techniques (25%)	43-47 as follows:
Planning and execution of interventional procedures, including general decision making, lesion subsets, patient characteristics, and comorbidities; also includes alternatives to be used if an initial approach fails	14-16
Selection and use of equipment, including guiding catheters, guidewires, balloon catheters, and other FDA-approved interventional devices, including coronary stents, atherectomy, thrombectomy, embolic protection devices, and ventricular support devices	14-16
Use of antithrombotic agents in interventional procedures	6-8
Management of complications in interventional procedures (includes both cardiac and non-cardiac)	10-13

Basic Science (15%)	24-29 as follows:
Vascular biology, including the processes of plaque formation, vascular injury, vasoreactivity, vascular healing, restenosis, reperfusion injury, microvascular angina, and effects of diabetes	5-8
Hematology, including the clotting cascade, platelet function, and thrombolysis	5-8
Coronary and peripheral anatomy (normal and abnormal), lesion characteristics	5-8
Coronary physiology and myocardial function, including alterations in coronary flow due to obstructions in vessels; assessment and effect of flow dynamics on myocardial perfusion; function of collateral circulation; effect of arterial spasm or microembolization on coronary flow; left ventricular function, including stunning and hibernation; arterial pressure evaluation; right ventricular infarction; and shunt quantification	5-8

Pharmacology (15%)	24-29 as follows:
Biologic effects and appropriate use of vasoactive drugs, antiplatelet agents, thrombolytics, anticoagulants, antiarrhythmics, lipid-lowering agents, sedating agents, DES compounds, device-related pharmacology, and local anesthetic agents	17-22
Biologic effects and appropriate use of angiographic contrast agents	4-7

Imaging (15%)	24-29 as follows:
Specific applications of imaging to interventional cardiology, including identification of anatomic features; visualization of lesion morphology by angiography and by intravascular and intracardiac ultrasonography; structural cardiac and peripheral vascular imaging (including echocardiography, MRI, and OCT)	16-21
Radiation physics, radiation risks and injury, and radiation safety, including methods to control radiation exposure for patients, physicians, and technicians; also includes equipment operation and imaging techniques	5-8

Miscellaneous (5%)	7-10 as follows:
Ethical and legal issues, as well as risks associated with diagnostic and therapeutic techniques; includes patient consent and patient safety	1-3
Statistics, epidemiologic data, and economic issues related to interventional procedures	5-8