

# Advanced Heart Failure and Transplant Cardiology

## Certification Examination (CERT)



**High Relevance:** Topics are very likely to appear on the assessment.

**Medium Relevance:** Topics are moderately likely to appear on the assessment.

**Low Relevance:** Topics will not appear on the assessment.

Blueprint Code and Topic	Assessment Percentage	Diagnosis/ Testing 30%	Treatment/ Care Decisions 50%	Risk Assessment /Prognosis /Epidemiology 10%	Pathophysiology /Basic Science 10%
<b>1 Heart Failure</b>	<b>40.0%</b>				
<b>1.1 Heart failure with reduced ejection fraction (HFrEF)</b>	<b>22.0%</b>	<b>HIGH</b>	<b>HIGH</b>	<b>HIGH</b>	<b>MEDIUM</b>
1.1.1 Stage B	<2.0%				
1.1.2 Stage C	5.5%				
1.1.3 Stage D	4.5%				
1.1.4 Acute	7.0%				
1.1.4.1 Index presentation					
1.1.4.2 Hemodynamics					
1.1.4.3 Decompensated					
1.1.4.4 Shock					
1.1.5 Comorbidities	2.0%				
1.1.6 Implantable therapy/monitoring devices	<2.0%				
1.1.7 Ethical considerations, palliative, and transitional care	<2.0%				
<b>1.2 Heart failure with preserved ejection fraction (HFpEF)</b>	<b>10.0%</b>	<b>HIGH</b>	<b>HIGH</b>	<b>MEDIUM</b>	<b>MEDIUM</b>
1.2.1 Stage B	<2.0%				
1.2.2 Stage C	3.0%				
1.2.3 Stage D	<2.0%				
1.2.4 Acute	2.0%				
1.2.4.1 Index presentation					
1.2.4.2 Hemodynamics					
1.2.4.3 Decompensated					
1.2.4.4 Shock					
1.2.5 Comorbidities	2.0%				
1.2.6 Implantable therapy/monitoring devices	<2.0%				
1.2.7 Ethical considerations, palliative, and transitional care	<2.0%				
<b>1.3 Specific etiologies</b>	<b>8.0%</b>	<b>HIGH</b>	<b>HIGH</b>	<b>MEDIUM</b>	<b>MEDIUM</b>
1.3.1 Adult congenital heart disease	<2.0%				
1.3.2 Arrhythmia-related	<2.0%				
1.3.3 Inherited cardiomyopathy	<2.0%				
1.3.4 Hypertrophic cardiomyopathy	<2.0%				
1.3.5 Infiltrative cardiomyopathy	<2.0%				

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1.3.6 Inflammation and infection	<2.0%				
1.3.7 Ischemic cardiomyopathy	<2.0%				
1.3.8 Non-ischemic cardiomyopathy	<2.0%				
1.3.9 Pericardial disease	<2.0%				
1.3.10 Peripartum cardiomyopathy	<2.0%				
1.3.11 Toxic cardiomyopathy, including chemotherapy	<2.0%				
1.3.12 Valvular heart disease	<2.0%				
<b>2 Mechanical Circulatory Support</b>	<b>30.0%</b>				
<b>2.1 Temporary mechanical circulatory support</b>	18.0%	HIGH	HIGH	HIGH	HIGH
2.1.1 Patient selection	4.0%				
2.1.1.1 Comorbidities					
2.1.1.2 Psychosocial					
2.1.1.3 Hemodynamics					
2.1.2 Timing of referral	3.0%				
2.1.3 Percutaneous	4.0%				
2.1.3.1 Intra-aortic balloon pump (IABP)					
2.1.3.2 Impella					
2.1.3.3 Tandem heart					
2.1.3.4 Other novel devices					
2.1.4 Surgical	<2.0%				
2.1.4.1 Left ventricular assist device (LVAD)					
2.1.4.2 Right ventricular assist device (RVAD)					
2.1.4.3 Biventricular device					
2.1.5 Extracorporeal Membrane Oxygenation (ECMO)	3.0%				
2.1.6 Ethical considerations, palliative, and transitional care	3.0%				
<b>2.2 Durable devices</b>	12.0%	HIGH	HIGH	HIGH	MEDIUM
2.2.1 Patient selection	5.0%				
2.2.1.1 Timing of referral					
2.2.1.2 Comorbidities					
2.2.1.3 Psychosocial circumstances					
2.2.1.4 Hemodynamics					
2.2.2 Patient management	3.0%				
2.2.3 Complications	2.0%				
2.2.4 Ethical considerations, palliative, and transitional care	2.0%				
<b>3 Heart Transplantation</b>	<b>25.0%</b>				
<b>3.1 Patient selection</b>	5.0%	HIGH	HIGH	HIGH	MEDIUM
3.1.1 Timing of referral					

Blueprint Code and Topic	Assessment Percentage	Diagnosis/ Testing 30%	Treatment/ Care Decisions 50%	Risk Assessment /Prognosis /Epidemiology 10%	Pathophysiology /Basic Science 10%
3.1.2 Comorbidities					
3.1.3 Psychosocial circumstances					
3.1.4 Hemodynamics					
3.1.5 Infectious considerations and vaccinations					
3.1.6 Combined organ transplantation					
3.1.7 Re-transplantation					
<b>3.2 Patient wait listing and management</b>	2.5%	HIGH	HIGH	HIGH	MEDIUM
<b>3.3 Donor selection</b>	<2.0%	MEDIUM	MEDIUM	MEDIUM	MEDIUM
<b>3.4 Transplant immunology</b>	<2.0%	MEDIUM	HIGH	MEDIUM	MEDIUM
3.4.1 Histocompatibility					
3.4.2 Allosensitization					
<b>3.5 Intra-operative and early peri-operative complications</b>	2.5%	MEDIUM	MEDIUM	MEDIUM	MEDIUM
3.5.1 Primary allograft dysfunction					
3.5.1.1 Left ventricular					
3.5.1.2 Right ventricular					
3.5.1.3 Biventricular					
3.5.2 Surgically related complications					
3.5.3 Medical management					
<b>3.6 Immunosuppression</b>	4.0%	HIGH	HIGH	HIGH	MEDIUM
3.6.1 Mechanisms of actions					
3.6.2 Adverse reactions					
3.6.3 Drug-drug interactions					
<b>3.7 Acute allograft rejection</b>	2.5%	MEDIUM	MEDIUM	MEDIUM	MEDIUM
3.7.1 Hyperacute					
3.7.2 Acute cellular					
3.7.3 Antibody-mediated rejection					
<b>3.8 Allograft vasculopathy</b>	<2.0%	MEDIUM	MEDIUM	MEDIUM	MEDIUM
<b>3.9 Post-transplant management</b>	5.0%	HIGH	HIGH	HIGH	MEDIUM
3.9.1 Diabetes mellitus					
3.9.2 Gastrointestinal complications					
3.9.3 Hypertension					
3.9.4 Infections and vaccinations					
3.9.5 Malignancy					
3.9.6 Metabolic disorders					
3.9.7 Ethical considerations, palliative, and transitional care					
3.9.8 Pregnancy					
3.9.9 Psychosocial circumstances					

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3.9.10 Rehabilitation					
3.9.11 Renal dysfunction					
4 Pulmonary Hypertension	5.0%				
4.1 WHO Group 1 - Pulmonary arterial hypertension (PAH)	<2.0%	MEDIUM	MEDIUM	MEDIUM	MEDIUM
4.2 WHO Group 2 - Pulmonary hypertension due to left heart disease	2.0%	MEDIUM	MEDIUM	MEDIUM	MEDIUM
4.3 WHO Group 3 - Pulmonary hypertension due to lung disease	<2.0%	MEDIUM	MEDIUM	MEDIUM	MEDIUM
4.4 WHO Group 4 - Chronic thromboembolic pulmonary hypertension (CTEPH)	<2.0%	MEDIUM	MEDIUM	MEDIUM	MEDIUM

