

# Examination Information (continued)

## Examination Content Outline

### 01 Functional Anatomy

#### 01.A Left ventricle

- 01.A.01 Systolic function (qualitative, quantitative)
- 01.A.02 Diastolic function
- 01.A.03 LV chamber quantification
- 01.A.04 Masses/thrombi
- 01.A.05 Cardiomyopathies

#### 01.B Right ventricle

- 01.B.01 RV chamber quantification
- 01.B.02 Function
- 01.B.03 Estimated right heart pressure

#### 01.C Atria

- 01.C.01 Chamber quantification
- 01.C.02 Atrial septum
- 01.C.03 Masses/thrombi
- 01.C.04 Left atrial hemodynamics

#### 01.D Valvular disease

- 01.D.01 Aortic
- 01.D.02 Mitral
- 01.D.03 Tricuspid
- 01.D.04 Pulmonic
- 01.D.05 Endocarditis
- 01.D.06 Prosthetic valve disease/dysfunction

#### 01.E Pericardium

- 01.E.01 Pericardial effusion
- 01.E.02 Constrictive pericarditis
- 01.E.03 Hematoma

#### 01.F Great vessels

- 01.F.01 Aorta
- 01.F.02 Pulmonary artery
- 01.F.03 IVC and SVC

#### 01.G Devices and foreign bodies

- 01.G.01 Catheters
- 01.G.02 Pacing wires
- 01.G.03 Cannulae

#### 01.H Intracardiac masses

- 01.H.01 Left ventricle
- 01.H.02 Right Ventricle
- 01.H.03 Atria

#### 01.I Adult congenital

- 01.I.01 Atrial septal defect
- 01.I.02 Ventricular septal defect
- 01.I.03 Bicuspid valve
- 01.I.04 Patent foramen ovale
- 01.I.05 Persistent left superior vena cava

### 02 Clinical Diagnosis and Management

#### 02.A Shock

- 02.A.01 Obstructive
- 02.A.02 Hypovolemic
- 02.A.03 Distributive
- 02.A.04 Cardiogenic

#### 02.B Volume assessment

- 02.B.01 Fluid responsiveness
- 02.B.02 Volume overload

#### 02.C Acute cardiovascular presentations

- 02.C.01 Myocardial infarction
- 02.C.02 Regional wall motion abnormalities
- 02.C.03 Pulmonary embolism
- 02.C.04 Aortic dissection

- 02.C.05 Valvular heart disease
- 02.C.06 Cardiomyopathy
- 02.C.07 Congenital heart disease

#### 02.D Trauma

- 02.D.01 Blunt
- 02.D.02 Penetrating

#### 02.E Respiratory failure

- 02.E.01 Cardiac versus pulmonary
- 02.E.02 Adverse effects of mechanical ventilation

#### 02.F Cardiac arrest

- 02.F.01 Etiology
- 02.F.02 Classification
- 02.F.03 Appropriate implementation

### 03 Technical Skills & Equipment Optimization

#### 03.A Physics

- 03.A.01 2D ultrasonography
- 03.A.02 Doppler ultrasonography
- 03.A.03 M mode
- 03.A.04 Enhanced cardiac ultrasound (contrast)

#### 03.B Artifacts

- 03.B.01 Reverberations
- 03.B.02 Side lobe
- 03.B.03 Mirror image/refraction
- 03.B.04 Acoustic shadowing
- 03.B.05 Aliasing
- 03.B.06 Electrical interference

#### 03.C Image Acquisition

- 03.C.01 Probe position
- 03.C.02 Probe manipulation
- 03.C.03 Probe selection
- 03.C.04 Indications
- 03.C.05 Canonical views
- 03.C.06 Image optimization
- 03.C.07 Normal variants
- 03.C.08 Patient positioning
- 03.C.09 Cardiac versus abdominal presets

### 04 Integrated ultrasound imaging

#### 04.A Lung and pleural

- 04.A.01 Postintubation assessment
- 04.A.02 A line versus B line
- 04.A.03 Pleural effusion
- 04.A.04 ARDS
- 04.A.05 Pneumonia with sepsis
- 04.A.06 Pneumothorax

#### 04.B Vascular

- 04.B.01 DVT

#### 04.C Abdominal

- 04.C.01 Evaluation for free fluid

## Reference Statement

NBE does not endorse or recommend any third-party review course or material. Any text in cardiovascular techniques and evaluation, cardiac patient care and management may be used. Current standards and guidelines endorsed by professional societies are also appropriate.