Japanese Board of Perioperative Transesophageal Echocardiography (JB-POT)

Application for
2009 JB-POT Certifying Examination

Sunday, September 13, 2009
Tokyo, Japan

JB-POT, Inc.

The Japanese Board of Perioperative Transesophageal Echocardiography (JB-POT) was organized in September 2004 by the Japanese Society of Cardiovascular Anesthesiologists (JSCVA) in association with the National Board of Echocardiography (NBE).

The JB-POT will develop and administer examination and hold seminars in the field of perioperative TEE.

The first examination of perioperative transesophageal echocardiography was given under the JSCVA on September 12, 2004, the final day of the 9th International Congress of Cardiothoracic and Vascular Anesthesia. Since 2005, examination of preoperative echocardiography has been given under the JB-POT.

JB-POT Certifying Examination

The JB-POT has prepared the content outline for certifying examination to test the required knowledge of usual perioperative TEE application. This outline consists of broad information involving anatomy, physiology, pathophysiology, and acoustic technology. The final goal is to cultivate specialized cardiovascular diagnosticians especially in the field of perioperative TEE.

The examination is to be given annually in cooperation with the NBE.

The JB-POT will authorize competent candidates, and expect those certified specialists to enhance the quality of perioperative TEE by making the effort to optimize their skill in the performance and interpretation of cardiac ultrasound, and furthermore to take a core position in the operation of TEE.

The purposes of the JB-POT Certifying Examination are to:

- enhance the quality of perioperative TEE
- encourage individual professional growth in perioperative TEE
- coordinate social activity in the practice of perioperative TEE

To accomplish these purposes, JB-POT shall:

- assess the level of knowledge in the practice of perioperative TEE
- serve as a source for distribution of information concerning certifying examination in perioperative TEE
- give certifying examination annually
- organize TEE seminars
- serve as a source for distribution of information concerning TEE
- communicate with other oversea societies (e.g. NBE)
- coordinate social activities in perioperative TEE

Eligibility
No qualification is needed for application of the JB-POT Certifying Examination.

Exanimation Date
Sunday, September 13, 2009

Location
Tokyo, Japan

Application Fee
30,000 yen

Certification Fee
10,000 yen
Candidate who passed certifying examination must pay the certifying fee.

Application acceptance period
Between May 15 and the end of June 2009.
We will close acceptance as soon as applications reach capacity

Application and Payment to:
Mail, UPS, or FedEx the appropriate completed application and your picture to:

The Secretariat of the JB-POT
5-4-27 #902 Minamiaoyama, Minato-ku,Tokyo 107-0062, JAPAN
info@asca2009.com

Content Outline for JB-POT examination

The test will consist of multiple-choice question and video cases covering the following content areas:

I. Principles of Ultrasound
- Nature of ultrasound
- Frequency, wavelength, penetration, tissue propagation velocity
- Properties of ultrasound waves
- Acoustic impedance
- Second harmonic imaging

II. Transducers
- Piezoelectric effect
- Crystal
- Damping material
- Sound beam formation
- Focusing
- Axial and lateral resolution
- Linear array / Phased-array transducer

III. Equipment, Infection Control, and Safety
- Biological effects of ultrasound
- Electrical and mechanical safety
- Infection control
- TEE probe insertion and manipulation
- Contraindications to transesophageal echocardiography
- Complications of transesophageal echocardiography

IV. Imaging
- Instrumentation
- Displays
- B-mode, M-mode, and two-dimensional echocardiography
- Signal processing

V. Principles of Doppler Ultrasound
- Doppler effect
- Doppler equation
- Doppler shift frequencies and influencing factors
- Nyquist limit
- Spectral analysis and display characteristics
- Pulsed-wave Doppler / High pulse repetition frequency pulsed-wave Doppler
- Continuous-wave Doppler
- Color flow Doppler
- Color M-mode

VI. Quantitative M-Mode and Two-Dimensional Echocardiography
- Edge recognition / Cardiac cycle
- Fixed and floating axis
- Center-line method
- Global function; measurements and calculations

VII. Quantitative Doppler
- Types of velocity measurements
- Proximal isovelocity surface area
- Valve gradients, and valve area measurements
- Cardiac chamber and great vessel pressures
- Tissue Doppler

VIII. Doppler Profiles and Assessment of Diastolic Function
- Tricuspid valve and right ventricular inflow
- Pulmonary valve and right ventricular outflow
- Mitral valve and left ventricular inflow
- Aortic valve and left ventricular outflow
- Non-valvular flow profiles

IX. Cardiac Anatomy
- Imaging planes
- Cardiac chambers and walls
- Cardiac valves
- Cardiac cycle and relation of events relative to ECG

X. Pericardium and Extracardiac Structures
- Pericardium and pericardial space
- Pulmonary arteries
- Pulmonary veins
- Vena cavae and hepatic veins
- Coronary arteries
- Aorta and Great Vessels

  Anatomy / Atherosclerosis / Aneurysm / Dissection and traumatic injury of the aorta
- Pleural space

XI. Pathology of the Cardiac Valves
- Acquired valve diseases

Endocarditis / Rheumatic / Myxomatous / Calcific / Degenerative/ Traumatic
- Tricuspid
- Pulmonary
- Mitral

  Mitral regurgitation / Ischemic mitral valve dysfunction / Mitral stenosis / Systolic anterior motion of mitral valve (SAM)
- Aortic

Aortic regurgitation / Aortic stenosis

XII. Intracardiac Masses and Devices
- Tumors
- Thrombi
- Devices and foreign bodies

XIII. Global Ventricular Systolic Function
- Normal left ventricular systolic function
- Abnormal left ventricular systolic function

  Etiologies including ischemia / Assessment / Ejection fraction / Confounding factors

- Right ventricular systolic function
- Cardiomyopathies

Hypertrophic / Restrictive / Dilated

XIV. Segmental Left Ventricular Systolic Function

- Myocardial segment identification
- Coronary artery distribution and flow
- Normal and abnormal segmental function

Assessment and methods / Differential diagnosis / Confounding factors

XV. Assessment of Perioperative Events and Problems

- Hypotension and causes of cardiovascular instability
- Cardiac surgery; techniques, and problems

Assessment of bypass and cardioplegia / Cannulae and devices commonly used during cardiac surgery / Circulatory assist devices / Intracavity air / Minimally invasive cardiopulmonary bypass / Off pump cardiac surgery

- Coronary surgery; techniques and assessment
- Valve surgery; techniques and assessment

Valve replacement (mechanical, bioprosthetic) / Valve repair

- Transplantation surgery

Heart / Lung / Liver

- Non-cardiac surgery

Neurosurgery (sitting positioning)
Mediastinal tumor
Tumor thrombus of inferior vena cava

- Intensive care unit

XVI. Congenital Heart Disease

- Identification and situs of morphologically left and right structures
- Atrial septal defects
- Ventricular septal defects
- Pulmonary valve and infundibular stenosis
- Left atrial and mitral valve conditions
- Aortic valve and left ventricular outflow tract abnormalities
- Coronary artery anomalies
- Patent ductus arteriosus
- Coarctation of the aorta
- Ebstein's anomaly
- Persistent left superior vena cava
- Tetralogy of Fallot
- Transposition of great arteries
- Atrioventricular septal defect - "AV canal"
- Conditions with single ventricle physiology

XVII. Artifacts and Pitfalls

- Imaging artifacts
- Doppler artifacts and pitfalls
- Structures mimicking pathology

XVIII. Related Diagnostic Modalities

- Stress echocardiography

- Myocardial perfusion imaging
- Epicardial scanning
- Contrast echocardiography
- Utility of TEE relative to other d

Determination of Passing Score and reporting

The passing score is based on an expected level of knowledge in echocardiography; therefore candidates are not measured against each other, but rather against the minimal level of knowledge established by the JB-POT.

All candidates will receive a score report that indicates their score and the minimum passing score required to pass the examination. The score report also lists the examinee’s performance on each of the main area of the examination.

The score report will be mailed to approximately two months after the examination.

2009 JB-POT Certifying Examination Application

Please fill out the application completely and send post it with your recent picture to:

The Secretariat of the JB-POT
5-4-27 #902 Minamiaoyama, Minato-ku,Tokyo 107-0062, JAPAN
info@asca2009.com (for inquires, please contact us by e-mail)

Note:

- Please enclose a picture (size: 3 x 4cm, taken within the latest three months).
- Application by e-mail or fax will not be accepted.
- You can pay the application fee in cash at the place of examination on your arriving.
- Bank transfer (telegraphic transfer only):
  All transfer charges must be paid by participants.
  Bank: UFJ Banking corporation
  Branch: Tokyo Women's Medical University Baranch
  Account number: 3742665
  Account name: JB-POT Nomura Minoru

Name_____ _____ _____
First name Family name middle name
Affiliation _____
Department_____
Mailing Address ☐Office ☐Home _____
_____
City_____ **State** _____
Zip _____ **Country** _____
_____
Telephone +_____-_____-_____
Country code Area code
Fax +_____-_____-_____
Country code Area code
E-mail _____
Language ☐English ☐Japanese

Please tick one which applies:

1. I have worked in/as:
   - ☐Anesthesiology
   - ☐Cardiovascular surgery
   - ☐cardiology
   - ☐Ultrasound technician
   - ☐Other (specify) _____

2. I have been a practicing echocardiographer for _____ years.
   - ☐No
   - ☐< 1
   - ☐1 to 2
   - ☐2 to 5
   - ☐> 5

3. I spend the majority of my time in this discipline:
   - ☐Anesthesiology
   - ☐Internal medicine
   - ☐Radiology
   - ☐Cardiovascular Surgery
   - ☐Pediatric cardiology
   - ☐Other (specify) _____

4. Perioperative transesophageal echocardiographic examination currently performed and interpreted:
   - ☐None
   - ☐< 6 per week
   - ☐6 to 10 per week
   - ☐> 10 per week