



Examination of Special Competence in Critical Care Echocardiography (CCEeXAM[®]) Handbook

Tuesday, January 31, 2023

Register online at www.echobords.org

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CCEeXAM® Examination Important Dates

IMPORTANT!
Registration will end promptly at 12:00 AM (Midnight) EST on Tuesday, January 3, 2023.

Early Registration Fee Ends: Tuesday, November 1, 2022 <i>at</i> 12:00 AM (Midnight) EST \$995.00 USD	Examination Date.....	January 31, 2023
Late Registration Fee Begins: Wednesday, November 2, 2022 <i>at</i> 12:01 AM (Midnight) EST \$1,195.00 USD <i>(includes \$200.00 non-refundable late fee)</i>	Requests for Special Accommodations.....	January 3, 2023
	Scores Emailed (Anticipated)	Approximately 10-12 weeks following the examination
	Withdrawal/Refund Deadline.....	January 17, 2023

**Examination Administration Grievance Policy –
Within 3 days after the exam administration. See page 7 for more details.**

Introduction

National Board of Echocardiography, Inc.®

The National Board of Echocardiography, Inc.® (NBE) was formed in December 1996. The NBE is a not-for-profit corporation initially established to develop the ASCeXAM, and subsequently has responded to the following additional needs:

- develop and administer an examination in the field of Critical Care Echocardiography,
- recognize those physicians who successfully complete the Examination of Special Competence in Critical Care Echocardiography (CCEeXAM), and
- develop a board certification process that will publicly recognize Diplomates of the National Board of Echocardiography, Inc.®. Those physicians who have completed training programs or significant practice experience in critical care echocardiog-

raphy, as specified in this application and have additionally passed the CCEeXAM (see page 6).

The examination and board certification in critical care echocardiography is not intended to restrict the practice of echocardiography. The process is undertaken, rather, in the belief that the public desires an indication from the profession regarding those who have made the effort to optimize their skill in the performance and interpretation of critical care echocardiography.

The first examination in Critical Care Echocardiography was a collaborative effort between the National Board of Echocardiography, Inc.® and nine other societies. The first administration of the CCEeXAM was in January 2019. Physicians who successfully passed the exam were granted as having successfully completed the CCEeXAM with a status of Testamur.

Eligibility

CCEeXAM

Candidates for the CCEeXAM must hold a valid (unexpired) license to practice medicine (including training or temporary licenses) at the time of application or must currently be in an ACGME accredited training program and in good standing.

If you do not have a medical license, you must submit an original, notarized letter from the program director verifying this information. The letter must also be on appropriate letterhead and include the ACGME program number.

- See Sample Letter in FAQ's at www.echoboards.org

PLEASE NOTE that if you are in an ACGME accredited training program and you DO have a valid license to practice medicine (training license) you DO NOT need to submit the letter from your program director also. A copy of the valid license to practice medicine will suffice.

Non-North American Trained Physicians: Non-North American Trained Physicians applying for the CCEeXAM examination must supply the following:

Current License to Practice Medicine. If your medical license does not have an expiration date, you are required to supply ONE of the following:

- An original letter from the Medical Council stating your license is permanent,
OR
- An original certificate of good standing, dated no more than 12 months prior to date application received.

All documentation must be supplied in English. If original documentation is not in English, a certified translation must be attached to each document. The candidate will be responsible for all costs associated with certified translation. Please allow yourself appropriate time if you need to obtain your medical license from a third party or translation is necessary.

NOTE: Only a copy of the candidate's current license to practice medicine or a letter from current program director, completed registration, and fee are required in order to sit for the CCEeXAM. Documentation for certification is not required when registering to take the CCEeXAM. Documentation required to apply for certification can be submitted at any time.

Testamur Status

For licensed physicians not meeting the criteria for certification, the NBE will continue to allow access to the examination. This is to encourage physicians to test and demonstrate their knowledge of echocardiography based on an objective standard and to allow the medical community the opportunity to recognize individuals who elect to participate in and successfully complete a comprehensive examination in echocardiography. Those who successfully pass the examination, but do not fulfill the necessary criteria for certification, will continue to be designated as "Testamur" of the National Board of Echocardiography.

Certification

Licensed physicians who meet the criteria for certification may apply for certification at any time. All required documentation needs to be uploaded via the online NBE certification process, but is not required to register for the Critical Care Echocardiography examination (CCEeXAM).

The Certification Committee will meet to review applications for certification. Applicants will be notified in writing of the decision of the Committee. Review of application for certification will be contingent on successful completion of the Critical Care Echocardiography examination (CCEeXAM) (see page 6). Applicants will receive notification of the decision of the Committee within the year.

Deadlines and Cancellation Details

Fees and Deadlines

Early Registration Fee Ends:

Tuesday, November 1, 2022 at 12:00 AM (Midnight) EST
\$995.00 USD

Late Registration Fee Begins:

November 2, 2022 after 12:01 AM EST
\$1,195.00 USD
(includes \$200.00 non-refundable late fee)

Refund/Cancellation Deadline

before 5:00 PM EST on Tuesday, January 17, 2023

IMPORTANT!

Registration will end promptly at 12:00 AM (Midnight)
EST on Tuesday, January 3, 2023

Submitting Applications

Please visit www.echoboards.org to complete the online registration. If you have any questions, please contact NBE for assistance. Our information is below.

To contact our office:

Phone: (919) 861-5582
E-mail: info@echoboards.org
Website: www.echoboards.org

Confirmation of Receipt of Application

It is recommended that you submit your online registration as early as possible. Registrations will be verified and completed in the order in which they are submitted. We will make every effort to accommodate as many candidates as possible. Registrations that are incomplete, or do not include payment will not be processed.

You will receive a confirmation email from NBE once your medical license or letter of good standing has been received and verified.

Please allow 2-6 weeks after submission of your online registration and payment for this to be completed. **A valid e-mail address is required for confirmation.**

Refund/Cancellation Policy

Candidates who wish to cancel/withdraw their registration and receive a partial refund (exam fee paid minus \$200.00) MUST submit a written request to cancel/withdraw via email to krussell@echoboards.org or info@echoboards.org before Tuesday, January 17, 2023.

Any requests received after this deadline will not be processed.

Deferments are no longer an option. We apologize for any inconvenience.

Notice

It is **REQUIRED** to provide NBE with a copy of your appointment cancellation from Pearson VUE prior to receiving a refund.

IMPORTANT!

Please remember to enter your name on the application in the SAME way as it appears on the unexpired, photo-bearing, signed, government-issued identifications you will be using at the Pearson VUE Testing Site. The name you provide during the registration process will be used to create your Authorization to Test (ATT) notification. Discrepancies in your first and last names will cause you to be denied admittance to the examination. Middle name(s) or initial(s) are not considered at the test center on exam day.

Examination Information

Examination Date

Tuesday, January 31, 2023

Pearson VUE Testing Center Information

The examination will be administered at Pearson VUE Testing Centers globally. All Pearson VUE Testing Centers are setup similarly. This not only helps enhance security, but also provides uniformity for all candidates. Workstations at all Pearson VUE test centers available to host the NBE examinations conform to Board-approved specifications.

Candidates are encouraged to submit registrations early. Candidates will not be able to schedule their test until their registration is complete and their Authorization to Test (ATT) notification has been received.

Please see page 7 for Policies and Procedures for the Computer-Based Examination.

Determination of a Passing Score

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 NBE.

All candidates will receive an emailed score report that indicates the minimum score required to pass the examination. The score reports also list the examinee's performance on each of the main areas of the examination. Total score and performance scores for each section of the examination will be reported only to the examinee.

A list including candidates who pass the exam, year that exam was passed, city and state, along with level of certification will be posted on the NBE website.

RESULTS WILL NOT BE GIVEN OVER THE TELEPHONE, VIA EMAIL, or VIA FAX.

Frequently Asked Questions

Please visit our website at www.echoboards.org for answers to frequently asked questions and a content outline. Sample letters to document education and experience in the required format are also available to download.

Notification of Change of Mailing Address or Email

Please notify the NBE immediately if your mailing and/or email address has changed since applying for the CCEeXAM. Email is NBE's preferred method of communication; therefore, failure to do so will cause delay in receiving correspondence from the NBE. You may submit your change of address on our website at www.echoboards.org.

Special Accommodations

NBE will provide, upon approved request, reasonable accommodations necessary to afford an individual with a documented disability an equal opportunity to participate in the CCEeXAM. To support a request for special accommodations, please provide an original letter signed by candidate and an evaluator, qualified psychologist, physician, or other health care professional who specializes in the stated disability. The documentation must:

- Be current (completed within the last five years)
- Clearly state the diagnosed disability or disabilities
- Describe the functional limitations resulting from the disability
- Describe the specific accommodations requested and the rationale for such accommodations
- Be typed or printed on official letterhead and signed by the evaluator qualified to make the diagnosis
- Include example, when possible, of where special accommodations have been requested and granted. If no prior accommodations have been provided, the evaluator, psychologist, physician, or health care professional should include a detailed explanation as to why no accommodations were given in the past and why the accommodations are needed now.

The purpose of the documentation is to validate that the candidate is covered under the ADA as a disabled individual. Additional documentation may be required to support the request. All documentation submitted in support of a request for special accommodations will be kept confidential.

Requests for special accommodation must be received at NBE headquarters ***before* January 3, 2023.**

(continued on next page)

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.

Exam and Test Center Policies and Procedures

Admission to the Test

You should arrive at the Pearson Vue test center 30 minutes before your scheduled testing time on your testing date. If you arrive late, you may not be admitted. If you arrive more than 30 minutes after your scheduled testing time, you will not be admitted.

Please visit <https://home.pearsonvue.com/Test-takers/Resources.aspx> for Pearson Vue exam day policies, procedures and test center expectations.

Testing Regulations and Rules of Conduct

Test center staff monitors all testing sessions for the examination. You must follow instructions of test center staff throughout the examination. Failure to do so may result in a determination of irregular behavior.

Test center staff are not authorized to answer questions from candidates regarding examination content, testing software, or scoring.

If staff observe you violating test administration rules or engaging in other forms of irregular behavior during the examination, the center staff will not necessarily tell you of the observation at the time of the examination. You may not bring any personal belongings in to the testing area. If you bring any personal belongings to the test center, you must store them in a designated locker outside the testing area. Personal items and their contents may be subject to inspection. Any materials that reasonably appear to be reproductions of any NBE examination materials will be confiscated. Making notes of any kind during the examination, except on the materials provided by the test center for this purpose, is not permitted. Removal of those materials from the secure testing area is prohibited.

For your examination, you may bring cordless soft-foam earplugs into the testing room. However, they must be out of the packaging and ready for inspection by test staff during check-in. Earplugs must be left at the workstation during all breaks.

Exam Administration

Occasionally issues arise in the creation, administration and scoring of examinations. For example, power failures, hardware and software problems, human error, or weather problems may interfere with some part of the examination process or delay the reporting of scores. When such problems arise, NBE may provide the affected candidates with an opportunity to take the examination at the next scheduled examination date. This shall be the candidate's sole remedy. NBE shall not be liable to any candidate for inconvenience, expense, or other damage, including administration, scoring of an examination, or delays in score reporting. In no circumstance will NBE reduce its standards or overturn the candidate's score as a means of correcting a problem in examination administration. Issues or problems arising during the administration of the examination must be reported to Pearson Vue test center staff by the candidate experiencing the issue or problem at the time the exam is being administered and prior to the candidate departing the test center site on the day the examination is scheduled. Candidates must also notify NBE of any issues or problems with the administration of the examination within 48 hours of candidate's scheduled examination time.

In the rare event of a technical problem, testing software is designed to allow the test to restart at the point it was interrupted. In most cases, the test can be restarted at the point of interruption with no loss of testing time.

Examination Administration Grievance Policy

If you wish to file a grievance regarding the administration of your examination, you must submit, in writing via email (krussell@echoboards.org and/or info@echoboards.org), a detailed description of the grievance(s) that occurred. You will have three (3) business days after the exam administration in question to submit your complaint(s) along with any appropriate or verifiable supporting documentation to the NBE office via the email addresses listed above.

Approved CCEeXAM Candidates

Upon the approval of an application, candidates are sent an Authorization to Test (ATT) notification which will include your 1-day eligibility window to take the examination. The ATT provides instructions and details for scheduling your test date and location.

NBE's examinations are administered on only 1 day at over 230 Pearson Professional Centers (PPC) in the United States and US territories and over 3,000 Pearson VUE Authorized Test Centers (PVTC) internationally. Examination site availability is provided when scheduling your examination with Pearson VUE. Do not contact Pearson VUE until you have received an Authorization to Test (ATT). Available sites may be viewed at www.pearsonvue.com/nbe.

IMPORTANT: While the NBE tries to accommodate location preferences, preferred testing sites are NOT guaranteed, and travel may be necessary.

In the event you need to reschedule or cancel your examination, contact Pearson VUE within a full 48 hours in advance of your scheduled appointment. The methods of contact are:

- Via Internet (no fee): Go to www.pearsonvue.com/nbe
- Via phone: Visit [Customer service :: NBE :: Pearson VUE](#) for region specific phone numbers.
 - \$10.00 fee associated

IMPORTANT: If you do not contact Pearson VUE within a full 48 hours in advance of your scheduled appointment you cannot reschedule or cancel the examination and your fees will be forfeited. For any issues with your examination fees, you will need to contact NBE at info@echoboards.org.

Exam Day

The only people admitted into the examination room are

1. Test Administrators
2. Authorized Candidates

Identification (ID) Requirements

- The first and last name that the candidate uses to register must match exactly the first and last name on both ID's that are presented on test day.
- All ID's required must be issued by the country in which the candidate is testing. If the candidate does not have a qualifying primary ID issued from the country they are testing in, an International Travel Passport from their country of citizenship is required, along with a secondary ID.
- Candidate is required to present two forms of original (no photo copies), valid (unexpired) ID's; one form as a primary ID (government issued with name, recent recognizable photo, and signature) and one form as a secondary ID (with at least a name and signature, or name and recent recognizable photo).

Primary ID:

- International Travel Passport
- Driver's license
- Military ID (including spouse & dependents)
- Identification card (national/state/province identity card)
- Alien registration card (green card, permanent resident, visa)
- Local language ID (not in Roman characters) – accepted only if issued from the Country the Candidate is testing in

Secondary ID:

- Any ID containing at least name and signature, or name and recent recognizable photo that meets above ID requirement
- In Japan, a valid Blue Japanese Health Card is acceptable

[Click here to view Pearson VUE ID Policy.](#)