Examination of Special Competence in Advanced Perioperative Transesophageal Echocardiography (Advanced PTEeXAM®) Handbook

Tuesday, July 21, 2020
Apply online at www.echoboards.org
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**Advanced PTEeXAM® Important Dates**

**IMPORTANT!**
Registration will end at 12:00 PM (Noon) EST on Wednesday, April 1, 2020.

Early Registration Deadline .......... **Wednesday, January 15, 2020**
before 12:00 PM (Noon) Eastern Standard Time
$995.00 USD

Late Registration Deadline.......... **Wednesday, April 1, 2020**
before 12:00 PM (Noon) Eastern Standard Time
$1195.00 USD
(includes $200.00 non-refundable late fee)

Deferment Request Deadline .......... **Wednesday, June 17, 2020**
before 12:00 PM (Noon) Eastern Standard Time
($200.00 additional non-refundable fee applies)

Examination Date ................... **Tuesday, July 21, 2020**

Requests for Special Accommodations .... **Wed., April 1, 2020**

Scores Emailed (Anticipated) ........... **Approximately 10 weeks following the examination**

Certificates Mailed (Anticipated) .......... **Approximately 12 weeks after score reports are released**

*NEW* 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 1998. The NBE is a not-for-profit corporation established to:

- develop and administer examinations in the field of Perioperative Transesophageal Echocardiography,
- recognize those physicians who successfully complete the Examination of Special Competence in Advanced Perioperative Transesophageal Echocardiography (Advanced PTEeXAM), and
- develop a board certification process that will publicly recognize as Diplomates of the National Board of Echocardiography, Inc.* those physicians who have completed training programs or significant practice experience in the perioperative care of surgical patients with cardiovascular disease and in advanced perioperative transesophageal echocardiography (TEE), as specified in this application, and have additionally passed the Advanced PTEeXAM.

The examination and board certification in advanced perioperative transesophageal 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 cardiac ultrasound.

The first examination in perioperative transesophageal echocardiography was given under the auspices of the Society of Cardiovascular Anesthesiologists (SCA) as a field test in 1997. An examination of perioperative transesophageal echocardiography was given in 1998, again under the SCA, and annually since then under the NBE. Physicians who successfully passed the exam were certified as having successfully completed the perioperative transesophageal echocardiography examination. Board certification was not granted since applicants were not requested to supply information regarding successful completion of training dedicated to the perioperative care of surgical patients with cardiovascular disease nor completion of special training in perioperative transesophageal echocardiography. With a mature and well-tested examination, a well-defined body of knowledge, published training guidelines, and published continuing quality improvement guidelines, the NBE began offering board certification in 2004.

Eligibility

Advanced PTEeXAM

Applicants for the Advanced PTEeXAM must hold a valid (unexpired) license to practice medicine (including training or temporary licenses) at the time of application or must currently be enrolled in an ACGME accredited training program and in good standing. The applicant’s license must contain an expiration date. If a license does not contain an expiration date an official, notarized letter from the Medical Council stating that a license is permanent or valid for “X” amount of years must also be submitted.

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, have the program director’s original signature, and include the ACGME program number.

PLEASE NOTE that if you are in an ACGME accredited training program and you DO have a valid license to practice medicine, including temporary or 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 Advanced PTEeXAM 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 examinee 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 if translation is necessary.

NOTE: Only a copy of the Applicant’s current license to practice medicine or a letter from current program director, completed application, and application fee are required in order to sit for the Advanced PTEeXAM. Documentation for certification is not required when registering to take the Advanced PTEeXAM. Documentation required to gain 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 advanced perioperative transesophageal 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 advanced perioperative transesophageal echocardiography. Those who successfully pass the examination, will be granted Testamur status as having successfully completed the Examination of Special Competence in Advanced Perioperative Transesophageal Echocardiography of the National Board of Echocardiography, Inc.*

Certification

Licensed physicians who meet the criteria for certification may apply for certification at the time of application for the Advanced PTEeXAM. The certification application, checklist, and all required documentation can be submitted at any time but is not required to register for the Advanced PTEeXAM.

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 Advanced PTEeXAM. Applicants will receive notification of the decision of the committee within the year.

Individuals who previously passed the Advanced PTEeXAM may apply for certification at any point in which they meet the clinical experience requirements as long as their testamur status remains valid.

Scope of Practice

The application of an advanced perioperative TEE examination is to utilize the full diagnostic potential of perioperative TEE including direction of the perioperative surgical decision-making process.
**Application Details**

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### Application Fees and Deadlines

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| **Early Registration Period** | Wednesday, January 15, 2020, before 12:00 PM (Noon) EST  
$995.00 USD |
| **Late Registration Period**  | 12:01 PM EST January 15th - 12:00 PM (Noon) EST April 1st  
$1,195.00 USD  
(includes $200.00 non-refundable late fee) |
| **Deferment Request Deadline**| Wednesday, June 17, 2020, before 12:00 PM (Noon) EST  
(additional $200.00 non-refundable fee applies) |

IMPORTANT!

Application registration will end at 12:00 PM (Noon) EST on Wednesday, April 1, 2020.

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**Submitting Applications**

Please visit www.echoboards.org to complete the online application. If you wish to pay by check or money order, please contact NBE at 919-861-5582 ext. 1259 or email krussell@echoboards.org.

To contact our office:
Phone: (919) 861-5582
E-mail: info@echoboards.org
Web site: www.echoboards.org

**Confirmation of Receipt of Application**

It is recommended that you submit your online application as early as possible. Applications 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. Applications that are incomplete, or do not include payment will not be processed.

The NBE will confirm receipt of your application once complete via e-mail. Please allow six (6) weeks after we have received your completed application before confirmation is received. A valid email address is required on the application for confirmation.

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**Refund/Cancellation and Deferment Policy**

Candidates who wish to cancel their application for the 2019 Advanced PTeXAM application **MUST** notify NBE in writing via email at krussell@echoboards.org.

The refund/cancellation process is as follows:

Candidates registered during the **early registration period** who wish to cancel/withdraw their application will receive a partial refund of $795.00 (the initial fee of $995.00 minus a $200.00 processing fee). All written requests to cancel/withdraw **MUST** be received via email to krussell@echoboards.org **before** 12:00 PM (Noon) EST on Wednesday, January 15, 2020. Any requests received after this deadline will not be processed.

- **Please Note:** Candidates that submit an application during the late registration period (after 12:00 PM (Noon) EST on Wednesday, January 15, 2020) are **NOT** subject to a refund. Withdrawal or cancellation will result in forfeiture of **ALL** exam fees.

OR

Candidates may defer, for any reason, their 2020 Advanced PTeXAM application and fee paid to the 2021 examination registration, **as a one-time courtesy**, if requests and payments are received **before** 12:00 PM (Noon) EST on Wednesday, June 17, 2020 for an additional fee of $200.00. Any requests received **after** this deadline, without medical documentation, will not be considered or processed.

The deferment process is as follows:

- A written request to defer **MUST** be received via email to krussell@echoboards.org **before** 12:00 PM (Noon) EST on Wednesday, June 17, 2020.
- The completed Deferment Request and Payment Form **MUST** be returned by fax (919-787-4916) or email to krussell@echoboards.org on or before the deadline.
  - The administrative fee payment of $200.00 is due at the time the deferment is requested. Deferments will not be processed until payment is made.
  - If $200.00 fee is not received **before** 12:00 PM (Noon) EST on Wed., June 17, 2020 the deferment will not be processed. Candidates will need to take the examination or forfeit **ALL** exam fees.

* IMPORTANT *

If an examination location and time has been scheduled with Prometric, it is the applicant’s responsibility to cancel the appointment at www.prometric.com. Upon cancelling the appointment with Prometric the candidate **MUST** provide NBE with a copy of the cancellation confirmation that Prometric will email you. Requesting to cancel or withdraw with NBE **DOES NOT** cancel your examination appointment with Prometric.

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**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 identification you will be using at the Prometric Testing Site. The name you provide on the application will be used to create the Scheduling Permit. 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

Frequently Asked Questions

Please visit our web site at www.echoboards.org for answers to frequently asked questions. 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 Advanced PTEeXAM. 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 Advanced PTEeXAM. To support a request for special accommodations, please provide an original letter signed by applicant 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 examples, 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 accommodation will be kept confidential.

Requests for special accommodations must be received at NBE headquarters before 5 PM EST Wednesday, April 1, 2020.

(continued on next page)

Examination Date

Tuesday, July 21, 2020

Prometric Testing Center Information

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

Candidates are encouraged to submit applications early. Candidates will not be able to schedule their test until their application is complete and their Scheduling Permit has been received. Scheduling Permits will only be available online; they will not be faxed or emailed.

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

Determination of 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 board certification status will be posted on the NBE web site. The Society of Cardiovascular Anesthesiologist (SCA) and the American Society of Echocardiography (ASE) will be supplied the names of those who pass the exam.

A certificate will be mailed to those who pass the examination. The score reports are emailed approximately ten (10) weeks after the exam date. Certificates for passing the exam will be mailed approximately twelve (12) weeks after the score reports are received.

RESULTS WILL NOT BE GIVEN OVER THE TELEPHONE, VIA E-MAIL, or VIA FAX.
Examination Content Outline

1. Principles of Ultrasound
   A. Nature of Ultrasound: Compression and Rarefaction
   B. Frequency, Wavelength, Tissue Propagation Velocity
   C. Properties of Ultrasound Waves
   D. Ultrasound/Tissue Interactions

2. Transducers
   A. Piezoelectric Effect
   B. Crystal Thickening and Resonance
   C. Damping
   D. Sound Beam Formation
   E. Focusing
   F. Axial and Lateral Resolution
   G. Arrays

3. Equipment, Infection Control, and Safety
   A. Clinical Dosimetry
   B. Biological Effects of Ultrasound
   C. Electrical and Mechanical Safety
   D. Infection Control
   E. Transesophageal Echocardiographic Probe Insertion and Manipulation
   F. Contraindications to Transesophageal Echocardiography
   G. Complications of Transesophageal Echocardiography

4. Imaging
   A. Instrumentation
   B. Displays
   C. Imaging Modalities
   D. Signal Processing and Related Factors

5. Principles of Doppler Ultrasound
   A. Doppler Effect
   B. Doppler Equation
   C. Doppler Shift Frequencies and Influencing Factors
   D. Nyquist Limit
   E. Spectral Analysis and Display Characteristics
   F. Pulsed-Wave Doppler
   G. Continuous-Wave Doppler
   H. Color Flow Doppler
   I. Color M-Mode

6. Quantitative M-Mode and Two-Dimensional Echocardiography
   A. Edge Recognition
   B. Temporal Resolution
   C. Global Function

7. Quantitative Doppler
   A. Types of Velocity Measurements
   B. Volumetric Measurements and Calculations
   C. Valve Gradients and Areas
   D. Estimation of Pressures in the Cardiac Chambers and Great Vessels

8. Valvular Spectral Doppler Profiles
   A. Tricuspid Valve and Right Ventricular Inflow
   B. Pulmonic Valve and Right Ventricular Outflow
   C. Mitral Valve and Left Ventricular Inflow
   D. Aortic Valve and Left Ventricular Outflow

9. Cardiac Chamber Anatomy
   A. Imaging Planes
   B. Cardiac Chambers and Walls
   C. Cardiac Cycle and Relation of Events Relative to ECG

10. Global Ventricular Systolic Function and Pathology
    A. Assessment of Left Ventricular Systolic Function
    B. Abnormal Left Ventricular Systolic Function
    C. Assessment of Right Ventricular Function
    D. Cardiomyopathies

11. Segmental Left Ventricular Systolic Function and Pathology
    A. Myocardial Segment Identification (17-Segment Model)
    B. Coronary Artery Distribution and Flow
    C. Normal and Abnormal Segmental Function
    D. Left Ventricular Aneurysm
    E. Left Ventricular Rupture
    F. Ventricular Septal Defect Post Myocardial Infarction
    G. Left Ventricular Pseudoaneurysm

12. Cardiac Valves – Anatomy and Pathology (Excludes Spectral Doppler)
    A. Tricuspid Valve
    B. Pulmonic Valve
    C. Mitral Valve
    D. Aortic Valve and Root
    E. Acquired Valve and Anular Diseases

13. Intracardiac Masses and Devices
    A. Intracardiac Masses
    B. Devices and Foreign Material

14. Pericardium and Extracardiac Structures – Anatomy and Pathology
    A. Pericardium and Pericardial Space
    B. Pulmonary Arteries
    C. Pulmonary Veins
    D. Vena Cavae and Systemic Veins
    E. Coronary Arteries
      1. Anatomical position of coronary ostia
      2. Flow patterns
      3. Reimplantation buttons
    F. Aorta and Great Vessels
    G. Pleural Space and Lung
    H. Other Structures

15. Assessment of Perioperative Events
    A. Causes of Cardiovascular Instability
    B. Cardiopulmonary Bypass, including Minimally Invasive Management
    C. Ventricular Assist Devices and Intra-aortic Balloon Pumps
    D. Transplantation Surgery (Heart, Lung, Liver)
    E. Assessment related to Coronary Surgery
    F. Assessment related to Valve Surgery
    G. Assessment related to Aortic Surgery (Aneurysm)

16. Congenital Heart Disease
    A. Identification of Morphologic Left and Right Structures
    B. Assessment Post Surgical Repair
    C. Atrial Septum
    D. Ventricular Septum
    E. Pulmonic Valve and Right Ventricular Outflow Tract Abnormalities
    F. Aortic Valve and Left Ventricular Outflow Tract Abnormalities
    G. Coronary Artery Anomalies
    H. Patent Ductus Arteriosus
    I. Coarctation of the Aorta
    J. Ebstein’s Anomaly
    K. Persistent Left Superior Venae Cava
    L. Tetralogy of Fallot
    M. Transposition of the Great Arteries
    N. Atrioventricular Septal Defect
    O. Single Ventricular Procedures
    P. Truncus Arteriosus
    Q. Cor Triatriatum

17. Artifacts and Pitfalls
    A. Two-dimensional Imaging Artifacts
    B. Doppler Artifacts and Errors in Measurement
    C. Pitfalls (Normal Anatomy/Variants Mistaken for Pathology)

18. Related Diagnostic Modalities
    A. Epiacardic Scanning
    B. Epicardial Scanning
    C. Contrast Echocardiography
    D. Utility of TEE Relative to Other Diagnostic Modalities

19. Ventricular Diastolic Filling and Function
    A. Basic Principles
    B. Echocardiographic Assessment of Left Ventricular Diastolic Function
    C. Grading of Left Ventricular Diastolic Function
    D. Estimates of Left Ventricular Diastolic Filling Pressures
    E. Right Ventricular Diastolic Function

20. Transesophageal Echocardiography for Interventional/Hybrid Procedures
    A. Intracardiac and Extracardiac
    B. Endovascular

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.
Your Scheduling Permit

A Scheduling Permit with instructions for making an appointment at a Prometric test center will be available to you online approximately two months prior to the examination. Submitting an incomplete application will prolong the scheduling permit process. You must print and bring your Scheduling Permit and an unexpired, government-issued form of identification (such as a driver’s license or passport) that includes both your photograph and signature to the testing center on your examination day. If your identification contains your photograph and not your signature, you can use another form of unexpired identification that contains your signature, such as an employee identification card or a credit card, to supplement your photo-bearing, government-issued identification. The first and last names on your identification must exactly match the names on your permit. The only acceptable difference would be the presence of a middle name, middle initial, or suffix on one document and its absence on the other. Please contact NBE immediately at (919) 861-5582 if you have not received a Scheduling Permit 5 weeks prior to the test date or if the name on your permit is misspelled or differs from your name as it appears on your identification. Name changes or corrections cannot be made within 7 business days of your scheduled testing appointment.

Each Scheduling Permit contains a unique Candidate Identification Number (CIN) that you must enter into the computer to unlock your examination. Test center staff do not have access to this number. Keep the permit in a secure location until your test date. If you do not bring your Scheduling Permit and acceptable identification to the test center, you will not be admitted to the test.

Scheduling Your Test

You must have your Scheduling Permit before you can contact Prometric to schedule a testing appointment. You should contact Prometric as soon as you receive the permit. Prometric schedules testing appointments on a first-come, first-served basis. The sooner you schedule your appointment, the more likely you will receive your preferred test time and location. While the NBE tries to accommodate location preferences, preferred testing sites are NOT guaranteed and travel may be necessary.

When you call to schedule your examination appointment, you will be asked to provide the program code, exam code, and scheduling number, which will be located at the top of the permit. Prometric will provide you with an appointment confirmation number, the test center location, and telephone number. Please call the test center for directions.

Confirm your testing center location one week before your appointment via Prometric’s website or by contacting Prometric at the telephone number listed on your permit.

Test Center and Testing Conditions

Prometric provides computer-based testing services for academic assessment, professional licensure, and certification. Prometric testing centers are set up similarly. This not only helps enhance security, but also provides the same standards for comfort and uniformity for all examinees. Prometric testing centers provide the resources necessary for secure administration of the examination, including video and audio monitoring and recording, and use of digital cameras to record the identity of examinees.

Admission to the Test

You should arrive at the Prometric 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.

On arrival, you are required to sign in on the test center log and to present your Scheduling Permit plus one form of unexpired, government-issued identification (such as a driver’s license or passport) that includes both your photograph and signature, after which a digital photograph will be taken. All of your personal belongings, food, and beverages must be placed in a small, designated locker outside the testing room. Pagers and cellular telephones must be turned off before placing them in the locker.

You will be provided with laminated writing surfaces and markers. You will be instructed to write your name and Candidate Identification Number (CIN) on one of the laminated writing surfaces provided. Your Scheduling Permit will be retained at the Test Center Administrator’s station. You may request access to the permit during the examination if it becomes necessary for you to rewrite the CIN on the laminated writing surface. Test center staff will escort you to your assigned testing station and provide brief instructions on use of the computer equipment. Laminated writing surfaces and markers issued are to be used for making notes and/or calculations during the testing session. They should only be used at your assigned testing station, and only after you have begun your examination by entering your CIN. You must enter your CIN to start the examination, which begins with a brief tutorial prior to the first test block. Depending upon the type of markers provided, you may also be provided an eraser. Otherwise, if you have filled the laminated writing surfaces and need additional space for making notes, you will need to notify test center staff and a replacement will be provided. Laminated writing surfaces must be returned to test center staff at the end of the testing session.

You will be asked to empty and turn your pockets inside out prior to entry into the testing room to confirm that you have no prohibited items. You will be asked to repeat this process prior to every entry into the testing room after a break.

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 into the testing area. If you bring any personal belongings to the test center, you must store them in a designated locker outside of 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 Prometric test center staff by the candidate experiencing the issue or problem at the time the exam is being administered and prior the candidate departing the test center site on the day the examination is scheduled.

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 (krussel@echoboards.org) and/or mail to:

Address: NBE

1201 E. 10th Street, Suite 109

Champaign, Illinois 61820-1669

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.
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