



American Board of Endodontics
Written Exam Guidelines

December 2, 2021

Notice from the American Board of Endodontics

During the application process, all candidates sign an agreement with the American Board of Endodontics to preserve the confidentiality of the information on both the ABE Written and Oral Examinations.

Disclosing or transmitting test questions to other candidates or knowingly receiving this information is considered cheating. Participation in this or any other similar endeavor will result in automatic failure of the examination and loss of Board Eligibility.

The American Board of Endodontics is committed to ensuring a fair and equitable examination for all candidates who participate in the certification process.

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Written Examination Date and Application

Please visit our website for:

- Current dates of the examination
- Application submission deadlines
- Registration deadlines

<https://www.aae.org/board/get-board-certified/examinations/written-examination/>

Pearson VUE and Measurement Research Associates (a business unit of Data Recognition Corporation)

Pearson VUE Website

This is the Pearson VUE/ABE homepage link: <https://www.pearsonvue.com/us/en/abe.html>

You will be able to:

- View testing center locations
- Take an online tour of a Pearson VUE Professional Center
- Get information on how to create your online Pearson VUE account
- View Frequently Asked Questions (FAQ)
- Read the candidate rules

We highly encourage you to visit these sections to become more familiar with the examination process.

Pearson VUE Testing Centers

In association with Measurement Research Associates and Pearson VUE, the ABE Written Examination is administered as a computer-based examination at Pearson VUE testing centers. There are strategically located testing centers around the world. All Pearson VUE testing centers are uniform in size, equipment, appearance, and procedures, ensuring a consistent and secure examination experience for all candidates.

Location of Testing Centers

To view the list of Pearson VUE testing centers:

1. Click on the *Find a Test Center* tab on the Pearson VUE/ABE homepage
2. Find a test center by zip code, address, state, province, or region
3. Click **Search**
4. Select *Testing Center Information* for address and directions to each location.

Demo Test

To ensure each Candidate is at ease with the format of the examination, a demo test is available. This demo test software provides the opportunity to learn how to navigate through computer-based examinations. This is the link to launch the Pearson VUE demo test:

<https://www.pearsonvue.com/us/en/test-takers/demo-test.html>.

Frequently Asked Questions

Pearson VUE offers a *Helpful Resources for Test-Takers* page on their website that includes a *Frequently Asked Questions* (FAQs) section. To access this page, click here on the Pearson VUE link: <https://www.pearsonvue.com/us/en/test-takers/resources.html#faqs>

Written Examination Process

Authorization Letter from ABE

Upon approval of the online ABE Prospective Board Candidate Application or Preliminary Application, and Written Examination Application, the applicant will receive autogenerated receipts of the application fees by email. Next, an autogenerated authorization email will be sent to the applicant with instructions on registering for the exam directly with Pearson VUE. This authorization letter will include your required identification number and registration instructions. All reservations are on a first-come-first-served basis. Please be sure to have back-up locations chosen.

Please verify that your name as shown on our ABE authorization letter exactly matches the name on the two forms of identification you plan to provide at the testing center. This is a requirement for registration and is mandatory for admission at the testing center. If it does not match, contact the ABE Central Office at staff@amboardendo.org immediately. Failure to follow these instructions could prevent your admission to the testing center.

Online Registration with Pearson VUE

Applicants are required to create a web account with Pearson VUE to schedule their exam. Pearson VUE recommends creating an account 48 hours prior to the first day of registration as it can take up to 48 hours for an applicant's web account request to be processed, and for a username and password to be emailed to the applicant. After this information is received, an applicant can schedule, reschedule, and cancel exams online. An applicant may also check their status, change their password, check which exams are offered, and look up testing center locations.

ABE applicants must use this link to create their Pearson VUE account:
<https://www.pearsonvue.com/us/en/abe.html>.

Cancellation and No-Show Procedures

Cancellations must be made at least 2 weeks/14 days before the examination is scheduled. Candidates are required to cancel using their Pearson VUE Web account. Upon confirmation of your cancellation from Pearson VUE, you must immediately notify the ABE Central Office at staff@amboardendo.org of your cancellation.

Candidates who do not arrive in time for the examination or have not cancelled at least 2 weeks/14 days before the examination will be considered a "No Show." The ABE is invoiced for all "No Show" candidates; therefore, the fee cannot be applied to a future examination and is not eligible for a refund.

Confirmation Letter from Pearson VUE

After the registration process has been completed, you will receive a confirmation letter via email from Pearson VUE. This Pearson VUE confirmation letter is one of the documents required for check-in.

Examination Time

You are required to arrive at least 30 minutes prior to the scheduled testing time to allow for check-in and verification of identification. Candidates who arrive later than 15 minutes prior to the start of the examination may not be allowed to take the examination. Traffic and/or parking

problems will not validate a late arrival. The test administrator will make every effort to accommodate a late arriving candidate; however, the administrator must ensure that other candidates are not affected. In line with the cancellation policy, late arrivals will not be eligible for a refund of the examination fee. The non-refunded fee will not be applied to a future examination.

Check-in Procedures

When you arrive at the testing center, Pearson VUE staff is required to adhere to the following procedures:

1. Request confirmation letter
2. Request two forms of identification (ID)
3. Check ID's
4. Capture electronic signature and verify that signatures match
5. Capture palm vein recognition
6. Capture digital photograph
7. Distribute rules document
8. Show area where personal belongings are stored
9. Offer erasable note board and pen
10. Admit

Required Admission Identifications

You are required to have *three pieces of identifications to gain admission into the examination.*

- Confirmation letter
- ID with signature and photo (government issued and non-expired)
- ID with signature (non-expired)

As previously noted, the name listed on your 2 forms of identification must match the name shown on your authorization letter.

Acceptable Forms of Photo Identification

Must be government-issued and include a photograph and signature.

- Valid (not expired) driver's license
- Valid (not expired) state identification card
- Valid (not expired) military identification card
- Valid (not expired) passport
- Valid (not expired) alien registration cards

Acceptable Forms of Signature Identification

- Social security card
- Valid credit card
- Bank automated-teller machine card

Palm Vein Recognition, Signatures and Photographs

Palm vein recognition, signatures, and photographs will be taken at the testing center. These are for internal use at the center only. You cannot take the examination without first having your palm vein, signature, and photograph taken.

Written Examination

Examination Description

General Description

The Written Examination of ABE certifying process is a computer-based test consisting of 200 multiple choice questions. Questions consist of a stem with four foils and are designed to test recall skills and the candidate's ability to apply knowledge, interpret data and solve problems.

Design of Questions

Included in the examination are clinical case histories, clinical photographs, and radiographs.

Examination Mechanics

Presentation

All questions are multiple-choice and presented one-at-a-time on the computer screen.

Moving between Questions

The **Next** and **Previous** buttons are used to move between questions.

Entering Answers

You may enter responses by "clicking" on the response you believe to be the correct answer or typing in the letter of the response. Responses are recorded directly into the computer.

Reviewing and Altering Answers

You may review and alter responses after they have been entered into the computer during the examination or after you have attempted to answer all the questions. At any time during the examination session, you can return to an item and change your answer.

Skipping Questions

You can skip questions and return to answer them later. You can choose not to answer a question by simply moving to the next item in the examination. At any time during the examination session, you can go back and answer the item by clicking on its number in the view list.

Flagging Questions

You may flag questions for later review. You can then go through the review list to all flagged items, or you can sort the list so that the flagged items appear together at the top.

Time

Review time is included in the total amount of time allowed for the exam. Time is kept on the individual computer workstations. Your remaining time is displayed at the bottom of the screen and is continuously updated. In addition, a message periodically appears on the screen indicating the amount of time remaining.

Ending the Examination

When you have answered and reviewed all the questions you may click the "END" button. Another box will ask you to confirm that you are ready to end the test. Once you confirm that you want to end, the test will close, and you will not be able to regain entry. The examination will also end if the maximum time allowed for the examination expires.

Examination Rules

No Personal Items Allowed

Personal items are not allowed in the testing room. Personal items include but are not limited to:

- cellular phones
- hand-held computers
- personal digital assistants (PDAs)
- pagers
- iPods / MP3 players
- Portable radios
- any other electronic device
- watches
- wallets
- purses
- hats
- bags
- coats
- books
- notes

You must store all personal items in a locker. Pearson Professional Centers are not responsible for lost, stolen, or misplaced personal items.

Erasable Note Board Provided

The Pearson Professional Center test administrator will provide you with an erasable note board and a marker before you enter the testing room. You may not remove these items from the testing room at any time during the exam and you must return all items to the test administrator after the exam.

You may not write on the erasable note board until after the exam has been started. If you need to clean your note board during the exam, raise your hand and the test administrator will assist you.

Earplugs Provided

Earplugs are available from the test administrator on request.

Logging In

The Pearson Professional Center test administrator will log you into your assigned workstation, verify that you are taking the correct examination and start the exam.

Noise and Distractions

Please remain in your assigned seat. Eating, drinking, smoking, and making noise that creates a disturbance for other candidates are prohibited during the exam.

Monitored Examination Room

To ensure a high level of security throughout your testing experience, you will be monitored at all times. Both audio and video will be recorded.

Unscheduled Breaks

To request an unscheduled break, raise your hand to get the test administrator's attention. The administrator will set your testing workstation to break mode and restart the exam for you when you return. The exam clock will NOT stop while you are away.

Breaks

You must leave the testing room for all breaks. When you leave the testing room, you will have your palm vein captured, and the same procedure will occur again before you re-enter the testing room.

Questions and Concerns during the Examination

If you have questions or concerns at any time during the exam, raise your hand and the test administrator will assist you if other candidates are not disturbed. The test administrator will not answer exam-specific questions.

If you have concerns about any of the questions as you work on the exam, you can make a note on the erasable board or mark an item for review onscreen. You'll have an opportunity to enter comments in the exam, and these comments will be forwarded to MRA.

If you experience hardware or software problems or distractions that affect your ability to take the exam, notify the test administrator immediately by raising your hand.

Finishing the Examination and Leaving the Testing Room

After you finish the exam, you will be asked to complete an optional, onscreen evaluation. After completing the evaluation, raise your hand. The test administrator will come to your workstation and ensure your exam has ended properly. You must return the erasable note board and marker to the test administrator. Do not leave these items at your testing workstation. You will have your palm vein captured when you leave the testing room.

Penalty for Not Abiding by Examination Rules

If you do not follow the above rules, if you tamper with the computer, or if you are suspected of cheating, appropriate action will be taken. This may include invalidation of your exam results.

Examination Confidentiality

Candidates will acknowledge and confirm the following confidentiality statement and examination policy on transcribing examination data prior to the examination:

"I understand that the content of the certification examination is proprietary and strictly confidential. I hereby agree that I will not disclose, either directly or indirectly, any questions or any part of any questions from the examination to any person or entity. I understand that the unauthorized receipt, retention, possession, copying or disclosure of any examination materials, including but not limited to the content of any examination questions, before, during, or after the examination, may subject me to legal action. Such legal action may result in monetary damages and/or disciplinary action including denial or revocation of certification."

Examination Results

Examination Scoring

To ensure that all responses are accurately recorded and that backups are available in case of hardware problems, five different copies of the responses are maintained. Three of these copies are kept on the workstation and two are kept on a database server. The copies are compared after the examination to ensure that they are error free. Evaluation of performance is criterion based and analyzed in consultation with Measurement Research Associates.

Receipt of Examination Results

Please note that you will NOT receive a score report at the end of the exam.

Please remember that your results of the examination will be sent to your email address of record approximately four to six weeks after the examination. We are not responsible for delays because of outdated contact information on file.

Exam results will not be provided over the phone or fax.

Scores and rankings are not compiled or released. Exam data is automatically encrypted and transferred electronically to a secured facility. From there, it is forwarded to Measurement Research Associates. Pearson Professional Centers do not have access to the exam data.

Appeal Process

No appeal may be taken from an adverse decision based on an individual's receipt of a failing grade on the Written Examination unless extraordinary circumstances exist, as determined solely by the Board.

Examination Preparation

How to Prepare for the Written Examination

There is no one single text or review course that can completely prepare a candidate for the Written Examination.

Because of the contemporary and constantly developing nature of a number of critical areas, particular study should be directed towards basic concepts and associated literature of:

- cellular and molecular biology
- inflammation, immunology, and virology
- management of medically compromised patients
- pharmacology of antibiotics, analgesics, and local anesthetics to include drug interactions
- microbiology to include anaerobic bacteria and current genus and species identification
- differential diagnosis of radiolucent and radiopaque lesions
- pulpal and periradicular pathosis
- wound healing
- bone regeneration

Examination Preparation

Appendix A: Matrix

The Written Examination is constructed by selecting questions using a text matrix that incorporates the clinical and basic sciences. The matrix currently used is:

Biomedical Sciences:

- I. Anatomy
 - A. Soft Tissue
 - 1. Pulp
 - 2. Mucosa
 - 3. Nerves
 - 4. Muscles
 - B. Hard Tissue
 - 1. Bone
 - 2. Teeth
 - a. Anterior
 - b. Maxillary
 - c. Mandibular
- II. Embryology, Histology and Physiology (Pulp, Periradicular)
 - A. Development (Tooth, Accessory Canals, Dentin)
 - B. Pulp
 - 1. Age Changes
 - 2. Histology
 - 3. Physiology
 - 4. Nerves
- III. Microbial Ecology
 - A. Oral Flora
 - B. Caries
 - C. Pulpal
 - D. Periradicular
 - E. Assay Methods
- IV. Infectious and Immunologic Processes
 - A. Oral Health
 - B. Disease
- V. Pathophysiology
 - A. Pulp
 - B. Periradicular Tissues
- VI. Wound Healing
 - A. Soft Tissue
 - B. Hard Tissue
- VII. Oral Medicine and Oral Pathology

- VIII. Pharmacotherapeutics
 - A. Mechanisms
 - B. Interactions
 - C. Effects of Drugs
- IX. Research Methodology and Statistics
- X. Biomaterials
 - A. Instruments
 - B. Obturation Materials
 - C. Intracanal Medicaments
 - D. Sealers
 - E. Surgical Materials
 - F. Temporary Filling Materials
 - G. Restorative Materials
 - H. Irrigating Solutions

Clinical Sciences:

- XI. Diagnosis, Treatment Planning and Prognosis
 - A. Clinical Tests
 - B. Chief Complaint/History
 - C. Differential Diagnosis
 - D. Treatment Planning
 - E. Prognosis
- XII. Non-surgical Endodontic Treatment
 - A. Access
 - B. Instrumentation
 - C. Obturation
 - D. Bleaching
 - E. Retreatment
 - F. Apexification
 - G. Apical Barrier
 - H. Perforation Repair (internal)
 - I. Restoration
 - J. Flare-ups
 - K. Postoperative Pain
 - L. Regeneration/Revitalization
- XIII. Surgical Endodontic Treatment
 - A. Root End Preparation
 - B. Root End Filling
 - C. Perforation Repair
 - D. Root Resection
 - E. Replantation
 - F. Biopsy
 - G. Prognosis
 - H. Postoperative Pain
 - I. Incision and Drainage

- XIV. Radiography and Other Diagnostic Imaging Technologies
 - A. Extraoral
 - B. Intraoral
 - C. Digital Imaging
 - D. Computed Tomography
 - E. Monitoring Dosage
- XV. Management of Medical Compromised Patients
 - A. Diagnosis
 - B. Management (pharmacologic)
- XVI. Emergency Treatment for Endodontic Conditions
 - A. Diagnosis
 - B. Anesthesia
 - C. Treatment
 - D. Postoperative Management (pain medication, antibiotics)
 - E. Incision and Drainage, Trephination
- XVII. Management of Patients with Orofacial Pain and Anxiety
 - A. Orofacial Pain Diagnosis
 - B. Orofacial Pain Treatment
 - C. Anxiety Diagnosis
 - D. Anxiety Treatment
- XVIII. Management of Medical Emergencies
 - A. Diagnosis
 - B. Treatment
- XIX. Management of Traumatic Injuries
 - A. Diagnosis
 - B. Treatment
- XX. Miscellaneous Topics
 - A. Use of Magnification Technologies
 - B. Intradicular Post and Core Preparation
 - C. Communication with Patients and Health Care Professionals
 - D. Vital Pulp Therapy
 - 1. Apexogenesis
 - 2. Pulp Capping (direct/indirect)
 - 3. Pulpotomy
 - E. Intracoronal Bleaching
 - F. Implants/Extrusion
 - G. Ethics and Jurisprudence

Appendix B: Sample Questions

The American Board of Endodontics has prepared samples of the types of questions used on the Written Examination.

1. Sensibility testing during post-traumatic pulpal healing is especially important after which type of traumatic injury?

- A. Extrusion
- B. Intrusion
- C. Luxation
- D. Concussion

2. Which of the following devices has been shown to induce changes in the circuitry of cochlear implants?

- A. Electric pulp tester
- B. Apex locator
- C. Electrosurgery unit
- D. Piezoelectric ultrasonic system

3. Pulpal glycosaminoglycans:

- A. show an affinity for fibrolysins.
- B. can bind calcium.
- C. are not responsible for maintaining odontoblast polarity in vitro.
- D. show a quantitative increase during inflammation.

4. Several clinical trials have assessed the effect of occlusal reduction in managing post-operative pain with conflicting findings, especially in symptomatic cases. Ahmed, Emara. Sarhan, Boghdadi etal, (International Endodontic Journal, 2020) reported occlusal reduction:

- A. reduced pain at 12 and 24 hours after root canal instrumentation
- B. was effective in reducing medication intake
- C. was greatest in pain reduction post obturation
- D. had no measurable effect 24 hours post obturation

5. Within the scientific process, _____ occurs when a research experiment is designed such that two or more things may differ at once.

- A. randomization
- B. double-blinding
- C. confounding
- D. external validation

6. Which one of the following statements BEST describes pretrigeminal neuralgia?

- A. It is a type of abnormal odontogenic pain.
- B. It is associated with a severe, shooting pain upon stimulation.
- C. It does not present as a classic paroxysmal pain.
- D. The ophthalmic division is most frequently involved.

7. Marceliano-Alves *et al.* (Australian Endodontic Journal 2019) used micro-CT to study the anatomy in the mesial roots of mandibular molars. The most frequent canal configuration was:

- A. one canal
- B. two canals that merge
- C. two separate canals
- D. three canals

8. Malagise, Khalighinejad, Patel, Jalali, (Journal of Endodontics 2021) analyzed the incidence and risk factors for severe pain after endodontic surgery. The most significant factor is:

- A. severe pain pre surgery
- B. lesion size
- C. thicker bone covering the apex
- D. tooth position [anterior vs posterior]

9. The maximum permissible radiation dose (MPD) for whole-body exposure of a pregnant dental care worker is per year:

- A. 0.05 mSv
- B. 0.1 mSv
- C. 0.5 mSv
- D. 5.0 mSv

10. Which of the following regenerative techniques have been shown to improve healing outcomes in endodontic surgical procedures?

- A. e-PTFE membrane.
- B. Autologous platelet concentrates [APC's].
- C. Bovine derived hydroxyapatite.
- D. Combined use of collagen membranes and bovine derived hydroxyapatite

11. A mandibular bone trabecular pattern with abnormal distribution and density resulting in a “stepladder” appearance is associated with:

- A. chronic viral infection.
- B. chronic fungal infection.
- C. sickle cell disease.
- D. metastatic disease.

12. A report from the ADA evaluating evidence-based clinical practice guidelines on antibiotic use for the urgent management of pulpal-and periapical-related dental pain and intraoral swelling, recommended antibiotic use in which clinical situation?

- A. Symptomatic irreversible pulpitis with symptomatic apical periodontitis
- B. Pulp necrosis and symptomatic apical periodontitis
- C. Patients with systemic involvement
- D. Pulp necrosis with localised apical abscess

13. Ferrer-Luque, Baca, Solana, Rodriguez-Archilla *et al*, (Journal of Endodontics 2021) demonstrated which of the following *in vitro*, protocols as showing the greatest level of anti biofilm activity against E faecalis.

- A. Triple antibiotic solution [minocycline, metrodidaxole, ciprofloxacin]
- B. Double antibiotic solution [metrodidaxole, ciprofloxacin]
- C. 5.0% Diclofenac
- D. 0.9% saline

14. Blood flow in the pulp is regulated mainly by the:

- A. capillaries
- B. arterioles
- C. venules
- D. postcapillary venules

15. Alyahya, and Myers (Journal of Endodontics 2021) in a case controlled study investigating factors contributing to external root resorption, identified which factor as significant?

- A. Hepatitis B
- B. Bisphosphonate use
- C. Denosumab use
- D. Periodontal procedures [scaling, root planing, periodontal surgery]