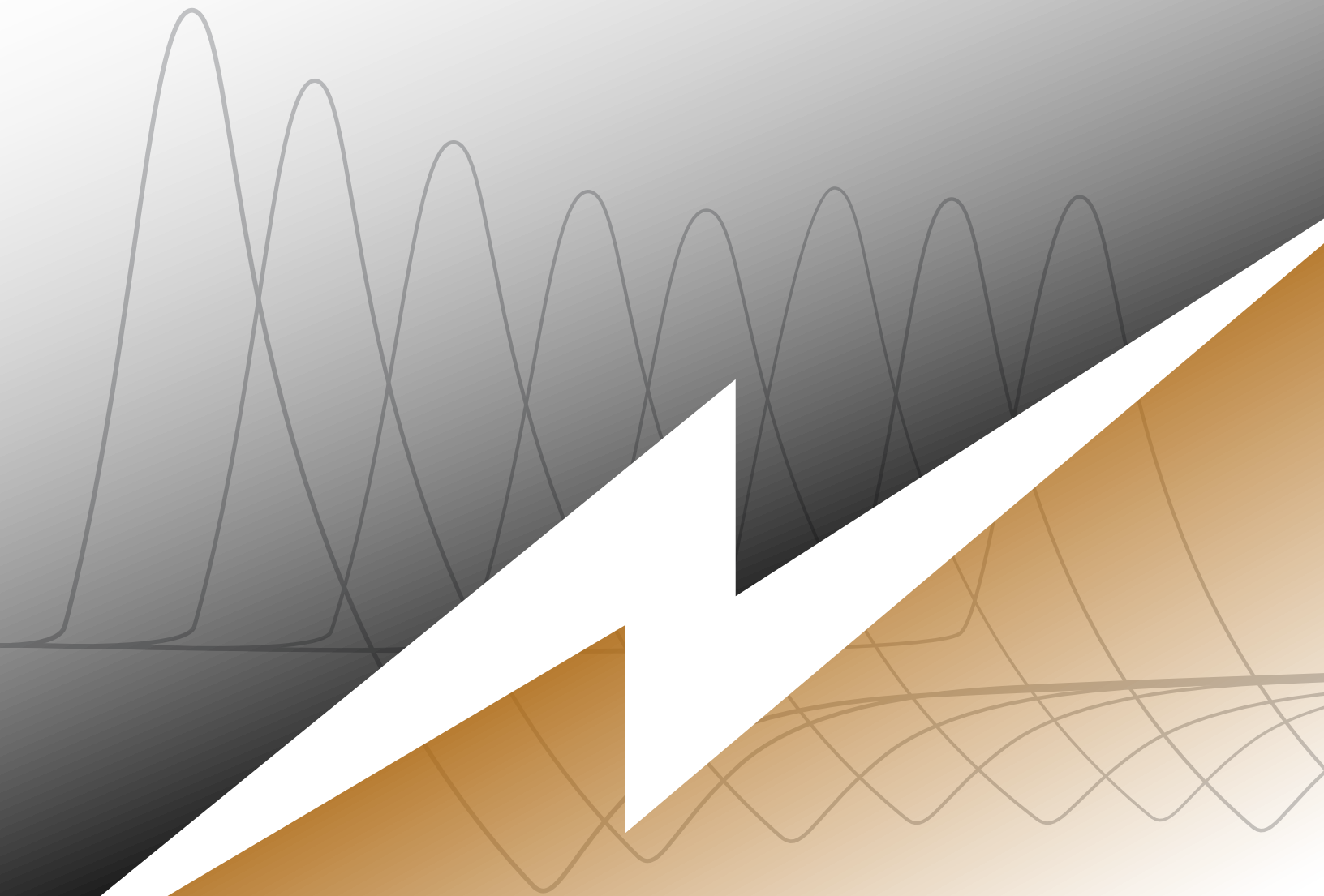




# CERTIFICATION EXAMINATION

INFORMATION FOR CANDIDATES



2021  
[www.abemexam.org](http://www.abemexam.org)

# Key Dates and Fees

## 2021 ABEM INITIAL CERTIFICATION EXAMINATION

### KEY DATES

Registration Opens	October 1, 2020
Early Application Deadline	October 31, 2020
Application Deadline	November 30, 2020
Examination Fee Refund Request Deadline	November 30, 2020
Eligibility Notification	January 10, 2021
ABEM Certification Examination	March 10-20, 2021
Notification of Examination Results	May 15, 2021

Independent experience must be completed by March 1, 2021.

### ABEM CERTIFICATION EXAMINATION FEES

Early Application Fee	\$950
Application Fee	\$1050

No applications will be processed without receipt of the examination fee, and all required supporting documents. There is a \$100 cancellation fee, regardless of when you withdraw your application. If you submit an examination fee refund request in writing before the refund request deadline, the rest of your examination fee will be refunded. You may also choose to hold over the rest of your examination fee to the next exam year.

**Notice:** Deadlines are firm and not subject to exception. The content of this publication is subject to change from year to year. It is the applicant's responsibility to seek information concerning the current requirements for certification. *The most current information found on the ABEM website ([www.abemexam.org](http://www.abemexam.org)) supersedes the information in all published booklets concerning Board requirements, policies, and procedures.*

The ABEM does not discriminate among applicants on the basis of age, gender, race, religion, national origin, disability, sexual orientation, or marital status.

### **Americans With Disabilities Act**

The ABEM supports the intent of the Americans With Disabilities Act (ADA). Candidates desiring accommodations for documented disabilities must complete a Disability Accommodation Request Form, which is available from the ABEM Executive Office or online at [www.abemexam.org](http://www.abemexam.org).

# Eligibility Requirements

Candidates must meet eligibility requirements for the year in which the examination is taken, regardless of prior approval. Eligibility does not carry over automatically from year to year.

## ***Specialty Certification***

A candidate must be a Diplomate of the American Board of Psychiatry and Neurology in neurology, American Board of Physical Medicine and Rehabilitation, American Osteopathic Board of Neurology and Psychiatry in neurology, American Osteopathic Board of Physical Medicine and Rehabilitation, or Canadian equivalent.

## ***Training in Electrodiagnostic Medicine***

A period of preceptorship in electrodiagnostic medicine that is coordinated with presentation of didactic material must be satisfactorily completed under direct supervision of an experienced electrodiagnostic medicine consultant, preferably an ABEM Board Diplomate. This preceptorship may be taken during and/or after an approved residency training program. The period of preceptorship must be at least 6 months full time or equivalent thereto, with the first 3 months rigidly structured with regard to supervision. Any postresidency course of study in electrodiagnostic medicine must be conducted where there is an ACGME, AOA, or RCPSC recognized neurology or psychiatry residency training program, or at a participating institution to a sponsoring institution that has been approved by the ACGME in order to qualify as a portion of the 6 month preceptorship. During these 6 months, at least 200 complete electrodiagnostic evaluations must be performed on separate occasions; these studies must be documented and interpreted.

## **Full-time equivalent: One month of full-time equivalent is defined as 160 hours divided among:**

- Performing or observing clinical neuromuscular evaluations/assessments or electrodiagnostic studies.
- Reading articles and books pertaining to the basic and clinical sciences of electrodiagnostic medicine.
- Participating in classes, research seminars, case conferences and journal clubs associated with the basic and clinical sciences of electrodiagnostic medicine.

## **Training must have included adequate educational experience in:**

- Anatomy
- Pathology of muscle and nerve
- Neuromuscular physiology
- Electrodiagnostic medicine, including instrumentation, quantification, and statistical analysis
- Clinical aspects of neuromuscular diseases as they pertain to clinical electrodiagnosis

The candidates must have been exposed to electrodiagnostic studies, diagnosis, evaluation, and treatment of neuromuscular disorders in adults and children.

### ***Independent Experience***

Competency in electrodiagnostic medicine can only be achieved by performing and interpreting additional electrodiagnostic examinations. Candidates, therefore, must also document at least 1 year of experience following training during which they must perform 200 additional complete electrodiagnostic evaluations on separate occasions. This period of independent experience can only begin after satisfactory completion of the approved residency training program and the 6 month preceptorship. The year of independent experience may be part of a postresidency program (e.g., fellowship) which includes the practice of electrodiagnostic medicine. The time spent in such a post residency program beyond the minimum 6 months preceptorship shall be counted toward the 1 year of independent experience. Applications may be submitted prior to the final projected completion date of the independent experience period. However, all training and experience requirements must be satisfactorily completed on or before March 1 of the examination year (or prior to the exam if it is earlier than March).

The ABEM is the only certifying board that evaluates and certifies physicians exclusively in electrodiagnostic medicine, specifically needle electromyography (EMG) and nerve conduction studies (NCS). A candidate needs to have an extensive understanding of electrodiagnostic medicine in order to pass the certification examination.

### ***Independent Patient Encounters***

It is the ABEM's position that full competency in electrodiagnostic medicine can only be achieved by performing and interpreting electrodiagnostic examinations on a broad range of neuromuscular diseases. ABEM requires candidates to obtain the following experience prior to applying for the ABEM certification examination:

- 200 patient encounters involving the identification of a variety of simple, moderate and complex diagnoses.

### ***Certificate of Recognition Candidates***

Individuals who have completed a medical specialty graduate training program that has not been approved by the ACGME, AOA, or RCPSC are not eligible for certification as an ABEM Diplomate. However, candidates who meet the following criteria, and who successfully complete the examination will receive the ABEM Certificate of Recognition. A candidate for the Certificate of Recognition must be a Diplomate or equivalent of a Board of Neurology or Physical Medicine and Rehabilitation outside of the United States or Canada; must have received training equivalent in scope, duration, and extent of supervision to that specified under the heading "Training in Electrodiagnostic Medicine" at an institution with an approved neurology or psychiatry training program; and must have experience as specified under the heading "Independent Experience".

### ***Covid-19***

The ABEM will follow the guidance of the ABMS and will rely upon the authority and judgement of training program directors (PDs) to determine readiness for unsupervised practice and to inform board decisions regarding eligibility for certification. Their authority and judgement are especially important during times of crises when traditional time- and volume-based educational standards may be challenged.

# Application Requirements

To be accepted, the fully completed online application form and exam fee must be received by the application deadline date (November 30).

A completed application includes the following that will be uploaded to the online application:

- A copy of the applicant's unexpired state medical license. A screenshot of the state's online verification page is okay.
- Documentation of active primary board certification.<sup>1</sup> A screenshot of your online verification page is okay.
- Dates of EDX training.
- Date independent experience began.
- Name of institution where EDX training was received.
- Name and email address for your Training Program Director (TPD). A form will be emailed to your TPD for training verification. You may also put the current Training Program Director's information in the event that your TPD is no longer at that institution.
- A signed Code of Conduct form.
- A current curriculum vitae.

Following receipt of the application, training verification forms are sent to the candidate's supervising training director(s). Additional information may be requested upon receipt of your application.

Applications received near the deadline may take longer because of the volume received at that time.

## **Board Eligibility**

The ABEM, in accord with the policy of the ABMS, does not recognize or use the term "board eligible" and does not issue statements concerning "board eligibility." The Board informs an applicant of admissibility to examination only when the applicant has an active, approved application on file in the ABEM Executive Office.

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<sup>1</sup>Copy of American Board of Medical Specialties [ABMS] board certificate, American Osteopathic Association board certificate, or Canadian equivalent.

# Examination Overview

## **Examination Format**

The examination is administered at Pearson testing centers world-wide in its new format. The oral examination aspect will no longer be a part of the certification process, so the examination will be a single-day event.

The new computer-based examination will be approximately 200 multiple-choice questions, including video waveform items and static images. There will be approximately 30-40 waveform videos, with each video being between 5 and 25 seconds. Candidates will be able to control the video (stop, play, pause) and can watch the video more than once.

Prior to the written examination a detailed analysis of individual questions has been performed and a minimum passing score established. After completion of the examination, the ABEM Executive Office will notify candidates whether they passed or failed. **No other information about the examination, examination results, or performance on specific categories of the examination will be made available to the candidates.**

# Examination Scoring and Results

## **Diplomate Certificate**

Upon approval of the candidate's application for examination and a passing score on the examination, the Board will grant a certificate stating the candidate has satisfied the requirements of the Board and is recognized as a Diplomate in the subspecialty of electrodiagnostic medicine. The recipient of a certificate will be known as a Diplomate of the ABEM and, unless requested otherwise, will be listed in an online directory of ABEM Diplomates.

*Note:* A certificate granted by this Board does not confer any right, privilege, or license to practice electrodiagnostic medicine. Specialty certification in a subspecialty field is primarily of significance for physicians preparing for careers in teaching, research, or a practice emphasizing that field. The Board does not limit or interfere with the professional activity of any duly licensed physician not certified by this Board and emphasizes that there is no necessity for a Diplomate in a recognized specialty to hold certification in a subspecialty of that field in order to include subspecialty aspects within the range of privileges. Privileges granted physicians in the practice of electrodiagnostic medicine in any hospital or clinic are the prerogative of that hospital or clinic, not of the ABEM.

## **Maintenance of Certification**

In October 1994, the ABEM initiated a policy of time-limited certification. A program of maintaining certification was established to provide a mechanism for ABEM Diplomates to demonstrate their continuing education in electrodiagnostic medicine, as they keep up-to-date with changes in this medical specialty. Diplomates will be expected to demonstrate current medical knowledge and clinical problem-solving skills in periodic maintenance examinations.

The ultimate purpose of maintaining certification is to reassure the public and the medical profession that after initial certification, ABEM Diplomates continue to assimilate new knowledge and techniques and continue to develop their clinical skills. The Maintenance of Certification Program sets high standards for quality medical care and demonstrates professional accountability to the public by the ABEM and its Diplomates.

To extend their certified status beyond the 10-year certified period, all successful certification examination candidates will need to enroll in the Maintenance of Certification Program. The program is designed as a 10-year period of documenting continuing education in electrodiagnostic medicine, culminating in a four hour, proctored maintenance examination.

### ***Failing the Examination***

Candidates will be notified whether they passed or failed the computer-based examination in a timely fashion. The ABEM encourages all candidates who are unsuccessful on the examination to take the examination the following year.

### ***Establishing Eligibility Criteria after Failing the Examination***

In accordance with the ABEM policy, candidates who fail the certification examination three times are ineligible to apply for the examination. To reestablish eligibility such candidates must obtain and document 3 months full-time equivalent of further electrodiagnostic training, approved in advance by the Board.

To assist the candidate in establishing such a training program, the ABEM has determined that the following criteria govern the 3-month electrodiagnostic training program:

1. The electrodiagnostic training must take place in a center where there is an ACGME or RCPSC recognized residency training program or under the tutelage of an ABEM Diplomate.
2. The electrodiagnostic training must include a minimum of 100 electrodiagnostic evaluations. These evaluations must be performed, documented, and interpreted by the candidate and include neuromuscular disorders in adults and children.
3. The electrodiagnostic training must include adequate educational experience in the following:
  - Anatomy
  - Pathology of muscle and nerve
  - Neuromuscular physiology
  - Electrodiagnostic medicine, including instrumentation, quantification, and statistical analysis
  - Clinical aspects of neuromuscular diseases as they pertain to clinical electrodiagnosis
4. The electrodiagnostic training must be completed prior to submitting an application for the examination.

To ensure that the proposed program will follow ABEM guidelines, candidates must submit an outline of the planned training program to the ABEM Executive Office at least 90 days prior to beginning the program for approval.

The above guidelines will be incorporated into a training verification letter sent to the physician who directly supervised the additional electrodiagnostic training of the candidate. Based on the completed verification letter and other required materials submitted with the application, the ABEM Credentials Committee will determine the candidate's eligibility.

### ***Release of Examination Results***

By applying for the examination, candidates agree that the Board may, at its discretion, release examination results and scores to researchers selected by the Board to study the testing and evaluation programs under appropriate conditions of confidentiality. Any such studies will only contain information about candidates and Diplomates in the aggregate and the names of individuals will not be revealed in any publications. The Board may release the results of candidate performance on any or all of the Board's examinations to the Director(s) of the Program(s) where a candidate acquired training. Aside from the above reasons, individual examination scores will be considered to be confidential and will not be released to others except pursuant to legal process.

### ***Revocation of Certificates***

The Board shall have authority to revoke any certificate issued by it or to place a certificate holder on probation for a fixed or indefinite time if:

- The certificate was issued contrary to or in violation of the Bylaws or any rule or regulation of the Board.
- The person to whom the certificate was issued made any material misstatement or omission of fact to the Board in his or her application or otherwise.
- A license to practice medicine of the person to whom the certificate was issued is forfeited, revoked, or suspended.
- The person to whom the certificate was issued is convicted of a felony or an offense involving moral turpitude.

The Board may also revoke any certificate if the Diplomate's primary board certificate has lapsed, been suspended, or revoked. Any complaint in relation to such circumstances shall be reviewed according to procedures established by the Board.

### ***Appeal Procedure for Rejection of Credentials, Invalidation of Examination Score Due to Irregular Behavior, or Denial of a Request for Disability Accommodation***

An applicant may appeal the decision if:

- The applicant submitted a formal application and received a negative determination regarding the application
- The applicant's examination scores are invalidated because of irregular behavior
- The applicant's request for disability accommodations was denied



Such applicants or candidates must submit the following materials to the ABEM office:

- Written request for a formal appeal with additional information that supports the appeal
- \$300 appeal fee

The appeal materials must be sent in a single mailing that is post-marked within 30 days of the date indicated on the letter/email of negative determination. The materials are sent to the Appeals Committee, which reviews the materials, deliberates, and makes a determination. In all events, the Appeals Committee's determination is final and binding on both the Board and the candidate.

If the appeal is granted, the appeal fee will be returned to the candidate.

***Appeal Procedure for Compromised Examination Process***

A candidate who experiences a compromise in the administration of the examination must notify the ABEM of the issue compromising the administration of the examination on the day of the candidates scheduled examination. This contact will not result in a review of a candidate's performance on an examination to the point of the compromise. The ABEM will investigate the issues stated by the candidate and determine whether the candidate will be allowed to sit for the examination at the next available administration. Failure to notify the ABEM on the schedule examination date of any issues forfeits the candidate's rights to ask for a rescheduling of the examination. Once a candidate receives the results of the examination, the determination of fail status is not appealable.

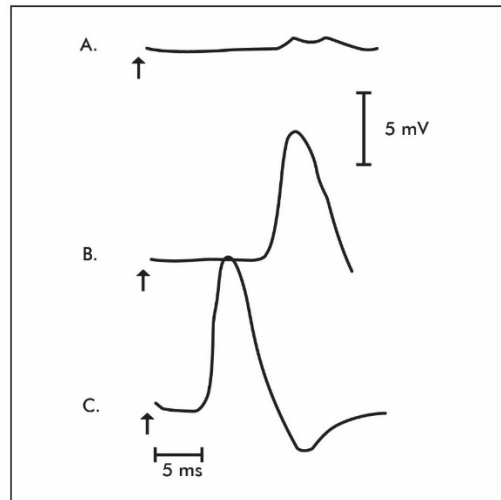
# Appendix

## **Examples of Knowledge Based Questions:**

1. When stimulating a peripheral nerve increasing the stimulus intensity from maximal to twice the maximal level will:
  - A. Decrease the latency due to cathodal migration.
  - B. Increase the response amplitude due to cathodal potentiation.
  - C. Have no effect on the latency or amplitude.
  - D. Decrease the response amplitude due to anodal blocking.
  - E. Increase the speed of volume conduction.
  
2. In a depolarized segment of axon during the passage of an action potential:
  - A. The sodium conductance is increased.
  - B. The potassium conductance is decreased.
  - C. The membrane potential is -50 mV.
  - D. Sodium ions are flowing out.
  - E. The calcium conductance is decreased.
  
3. A newborn baby (3 kg in weight) being studied for hypotonia had the following conduction study results: peroneal, 30 m/s; median, 28 m/s. Which of the following is the most correct interpretation?
  - A. These results are normal for a newborn.
  - B. The velocities suggest prematurity.
  - C. The baby has a demyelinating neuropathy.
  - D. Measurement errors make studies in infants useless.
  - E. A neurogenic lesion is present in the arm.

### Examples of Questions Involving Pictorial Interpretation:

The recording electrodes are placed over the extensor digitorum brevis and the 5th metatarsal head and the peroneal nerve stimulated: (a) above the knee, (b) below the fibular head, and (c) at the ankle. Stimulation is at the time of the arrow shown on the photograph below:



4. The diagnosis is:
- A. Peripheral polyneuropathy.
  - B. Accessory peroneal nerve.
  - C. Crossed leg palsy.
  - D. Artifact.
  - E. Normal.
5. Which best describes the condition of the nerve?
- A. Neurapraxia.
  - B. Axonal neuropathy.
  - C. Neurotmesis.
  - D. Generalized demyelination.
  - E. Normal.

### Examples of Questions Involving Video Waveform Recognition or Surface Anatomy:

The following questions cannot be answered without viewing the waveform video clips, but are included as representative examples.

Waveform One (vastus lateralis muscle, 30-year-old man, 50  $\mu$ V/division sensitivity, 10 ms/div sweep speed).

1. The firing pattern of these potentials is:
- A. Regular and less than 20 per second.
  - B. Irregular and less than 20 per second.
  - C. Regular and more than 20 per second.
  - D. Irregular and more than 20 per second.
  - E. Too variable to determine.

2. These waveforms are:
  - A. Fasciculation potentials.
  - B. Myotonic discharges.
  - C. Positive sharp waves.
  - D. Motor unit action potentials.
  - E. Normal insertional activity.

The following question is accompanied by a video segment in which the patient is asked to change the angle of his elbow.

3. The primary muscle responsible for producing this movement is the:
  - A. Biceps brachii.
  - B. Triceps brachii.
  - C. Anconeus.
  - D. Pronator teres.
  - E. Latissimus dorsi.

### **Study Resources**

Information needed for the examination is available in standard texts and journals dealing with clinical neurophysiology. It may be helpful in locating study materials to review the Suggested Reference List (visit [www.aanem.org](http://www.aanem.org) and search for “suggested reference list”) assembled by the AANEM Education Committees. Please note, however, that the ABEM does not necessarily consult the material on this list in the development of examination questions.

AANEM Marketplace publications are also an excellent study resource. AANEM members have prepared numerous monographs, case reports, and handouts for courses, annual meeting didactic/plenary sessions, and workshops. In addition, candidates may find the AANEM’s [Guidelines for Ethical Behavior Relating to Clinical Practice](#) helpful.

Visit AANEM’s educational product page ([www.aanem.org/marketplace](http://www.aanem.org/marketplace)) to search for resources that can help you prepare for the exam. Candidates from previous exam years continue to state that AANEM’s Electrodiagnostic Self-Assessment Examinations (EDX SAEs) are the most helpful study materials for the ABEM Examination.



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