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37	A	B	C	D	E
38	A	B	C	D	E
39	A	B	C	D	E

PRACTICE QUESTIONS

ABRET Neurodiagnostic Credentialing and Accreditation

EP

Registration Examination for Evoked Potential Technologists

EDITION

Demo

QUESTIONS

9

FORMAT

Limited Edition PDF

Before you begin

What this is

9 practice questions for ABRET Neurodiagnostic Credentialing and Accreditation **EP**, each with its answer key and an explanation. Answer a question before you read its key — the explanation is worth more once you have committed.

If something looks wrong

Send us three things and we will check it:

- the exam code, **EP**
- the question number
- the email address on your order

Write to **support@mometrix.net**. We reply within one business day.

QUESTION 1

MULTIPLE CHOICE

Which of the following actions should be performed during patient preparation for a somatosensory evoked potential (SSEP) study? (Choose two.)

- ☒ **A** Measure and mark the skin according to the International 10-20 system or modified combinatorial electrode placements.
- ☐ **B** Apply electrodes immediately after scrubbing the skin with alcohol to save time.
- ☒ **C** Confirm that skin-electrode impedances are below 5,000 ohms and relatively balanced between sites.
- ☐ **D** Use monopolar needle electrodes as the standard recording montage for routine upper extremity SSEPs.

ANSWER A • C

WHY Correct preparation for SSEP recording includes measuring and marking electrode positions using accepted placement systems (A) and verifying that skin-electrode impedances are acceptably low (typically under 5 kΩ) and balanced (C). Alcohol should be allowed to fully dry before electrode application; skin prep typically uses an abrasive paste followed by conductive paste, not alcohol alone (B is wrong). Surface disk electrodes, not monopolar needles, are standard for routine SSEP recordings (D is wrong).

QUESTION 2

MULTIPLE CHOICE

Which of the following are required elements when documenting an evoked potential waveform? (Choose two.)

- ☒ **A** The absolute latency of each labeled component.
- ☐ **B** The ambient room temperature during the recording.
- ☒ **C** The amplitude (or interpeak amplitude) of each labeled component.
- ☐ **D** The brand and serial number of the amplifier used.

ANSWER A • C

WHY Standard evoked potential documentation requires measurement of both latency and amplitude (or peak-to-peak amplitude) for each identifiable component (A and C). Ambient room temperature and the skin temperature of the patient may be documented as patient factors, but ambient room temperature alone is not a required waveform element (B is wrong). The serial number of the amplifier is part of equipment tracking but not a required waveform measurement (D is wrong).

QUESTION 3

SINGLE CHOICE

In an evoked potential recording, the artifact rejection level is most commonly set to what percentage of the full-scale input range of the amplifier?

- ☐ **A** 25–35%
- ☐ **B** 50–70%
- ☒ **C** 80–95%
- ☐ **D** 100% (no rejection)

ANSWER C

WHY Most modern evoked potential systems automatically reject sweeps in which the signal exceeds a high percentage (commonly 80–95%) of the amplifier's full-scale input range. This minimizes contamination of the averaged trace by large muscle, movement, or electrical artifacts. Lower thresholds (A, B) would reject an excessive number of otherwise usable trials, and setting the threshold at 100% (D) provides no artifact protection.

QUESTION 4

SINGLE CHOICE

Stimulation of the median nerve at the wrist for an upper extremity SSEP primarily generates activity that travels through which peripheral nerve structure?

- ☐ A The ulnar nerve fibers in the hand
- ☒ B The median nerve fibers in the forearm and upper arm
- ☐ C The radial nerve fibers at the elbow
- ☐ D The musculocutaneous nerve fibers in the upper arm

ANSWER B

WHY Median nerve stimulation at the wrist activates the median nerve, whose sensory and motor fibers travel through the forearm, cross the elbow, and ascend through the upper arm via the brachial plexus toward the dorsal root ganglia and dorsal columns. The ulnar (A), radial (C), and musculocutaneous (D) nerves are distinct peripheral nerves not primarily activated by median nerve stimulation at the wrist.

QUESTION 5

SINGLE CHOICE

Which visual evoked potential (VEP) component is most commonly used to assess the functional integrity of the central visual pathway in a clinical pattern-reversal VEP?

- ☐ A N75
- ☒ B P100
- ☐ C N145
- ☐ D P300

ANSWER B

WHY The P100 is the prominent positive peak occurring around 100 ms after pattern-reversal stimulation and is the principal component analyzed in clinical pattern-reversal VEP testing because of its stability and sensitivity to disorders of the optic nerve and central visual pathway. N75 and N145 are supporting components, and P300 is a cognitive/event-related potential, not a primary clinical VEP component.

QUESTION 6

SINGLE CHOICE

Wave V of the auditory brainstem response (ABR) is generally believed to be generated by which anatomical structure?

- ☐ A The cochlear nerve (auditory nerve) distal portion
- ☐ B The superior olivary complex
- ☐ C The lateral lemniscus
- ☒ D The inferior colliculus or its vicinity

ANSWER D

WHY Wave I originates from the distal auditory (cochlear) nerve, Wave III from the area of the superior olivary complex/lateral lemniscus, and Wave V from the region of the inferior colliculus on the contralateral side. Wave V is the most robust and clinically important ABR component and is therefore used for threshold estimation and neurologic assessment.

QUESTION 7

SINGLE CHOICE

For a click-evoked ABR, which stimulus parameter most directly determines the latency of Wave V?

- ☐ A Stimulus repetition rate
- ☐ B Stimulus polarity (rarefaction vs. condensation)
- ☒ C Intensity (dB nHL) presented to the ear
- ☐ D The brand of insert earphone used

ANSWER C

WHY Wave V latency shortens as click intensity increases and lengthens as intensity decreases; therefore, intensity is the primary stimulus parameter that determines absolute Wave V latency. Repetition rate (A) has a smaller, secondary effect, polarity (B) primarily affects waveform morphology and the recording of the cochlear microphonic, and the earphone brand (D) is not a defined stimulus parameter.

QUESTION 8

SINGLE CHOICE

A 60 Hz (or 50 Hz) interference pattern is contaminating an evoked potential recording in the United States. Which of the following is the most appropriate initial troubleshooting step?

- ☐ A Replace all surface electrodes immediately.
- ☐ B Increase the number of averages to reduce the line interference.
- ☒ C Check electrode impedances, electrode integrity, and ensure proper grounding of the patient and equipment.
- ☐ D Switch to monopolar needle electrodes for all channels.

ANSWER C

WHY Line-frequency interference (60 Hz in the U.S., 50 Hz in many other countries) most commonly results from unbalanced or high electrode impedances, broken electrode leads, inadequate grounding, or nearby electrical sources. The appropriate first step is to check impedances, leads, grounding, and the recording environment. Replacing all electrodes (A) and changing to needle electrodes (D) are unnecessary interventions, and averaging (B) does not remove synchronous line noise.

QUESTION 9

SINGLE CHOICE

Prolonged central conduction time (the interpeak latency between the cervical response and the cortical response) on an upper extremity SSEP is most consistent with a lesion in which region of the nervous system?

- ☐ A The peripheral nerve at the wrist
- ☐ B The brachial plexus
- ☒ C The dorsal column–medial lemniscus pathway above the cervical entry zone (central sensory pathway)
- ☐ D The anterior horn cells of the cervical spinal cord

ANSWER C

WHY Central conduction time reflects conduction between the cervical spinal cord (cervical response, e.g., N13) and the contralateral cortex (e.g., N20). Prolongation of this interval indicates dysfunction within the central sensory pathway, typically in the cervical dorsal columns or the medial lemniscus above the cervicomedullary junction. Lesions of the peripheral nerve (A) prolong the peripheral latencies, brachial plexus lesions (B) affect the Erb's point response, and anterior horn cell disease (D) is a motor system disorder.