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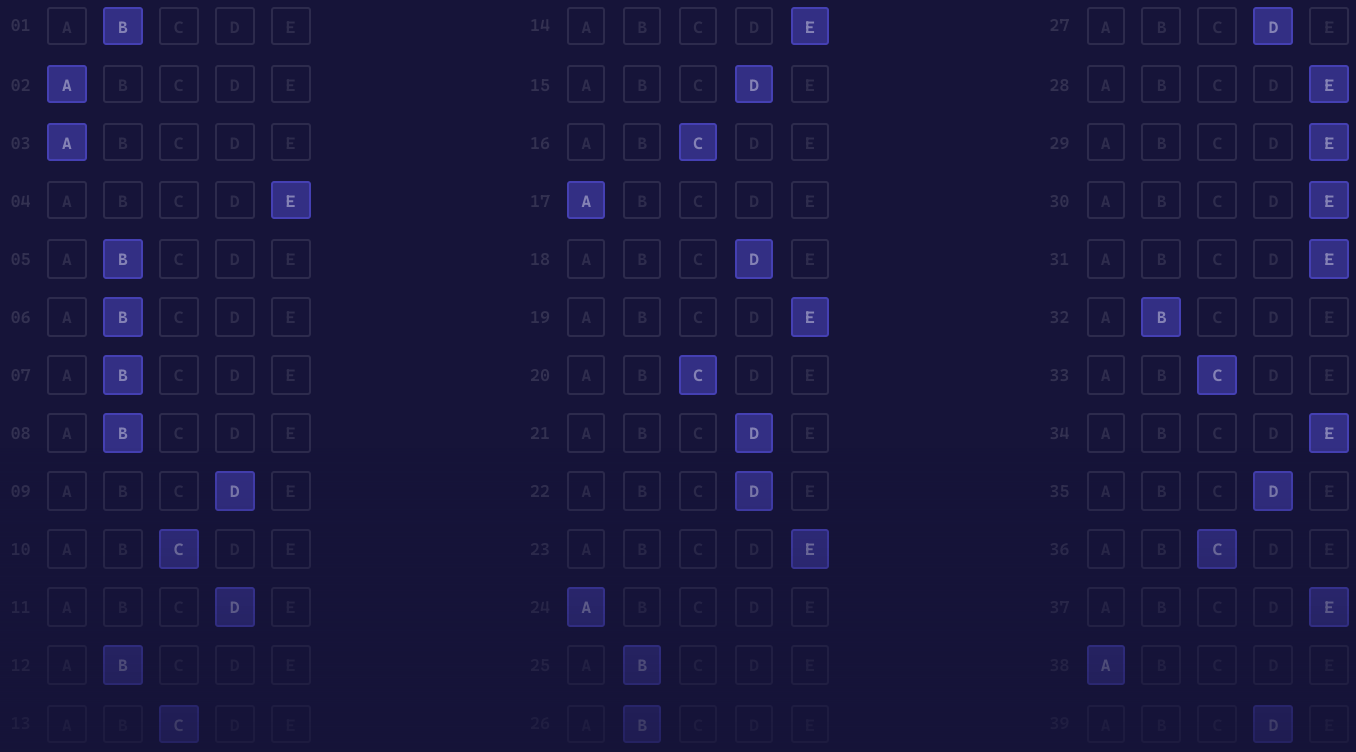

PRACTICE QUESTIONS

American Physical Therapy Association (APTA)

YTLQVQPQ

Specialist Certification Examination In Clinical Electrophysiologic Physical Therapy

EDITION	QUESTIONS	FORMAT
Demo	9	Limited Edition PDF

Before you begin

What this is

9 practice questions for American Physical Therapy Association (APTA) `YTLQVQPQ`, 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, `YTLQVQPQ`
- the question number
- the email address on your order

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

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QUESTION 1 SINGLE CHOICE

In nerve conduction studies, the stimulus artifact is best minimized by which of the following actions?

A Increasing the stimulus intensity until a supramaximal response is reached

B Rotating the anode and cathode so the anode is placed distally on the nerve

C Using a higher filter cutoff to eliminate low-frequency components

D Moving the recording electrodes farther from the stimulating electrodes

ANSWER B

WHY Stimulus artifact is reduced by placing the anode distal to the cathode (anode-cathode orientation) so that the depolarizing current under the cathode initiates the action potential rather than the anode producing hyperpolarization near the recording site. Increasing intensity (A) increases artifact; raising the low-frequency filter (C) reduces high-frequency artifact but the standard maneuver is adjusting filter settings, not raising cutoff; moving recording electrodes farther (D) reduces recorded amplitude, not artifact specifically.

QUESTION 2 SINGLE CHOICE

A patient demonstrates a normal distal motor latency, markedly reduced compound muscle action potential (CMAP) amplitude, normal conduction velocity across the forearm, and reduced CMAP amplitude proximal to the elbow. Which pattern is most consistent with these findings?

A Demyelinating median neuropathy at the wrist (carpal tunnel syndrome)

B Axonal loss median neuropathy proximal to the elbow

C Uniform axonal median neuropathy affecting all segments equally

D Conduction block limited to the distal segment at the wrist

ANSWER B

WHY Preserved distal latency and conduction velocity with reduced CMAP amplitude that worsens with stimulation proximal to the elbow indicates focal axonal loss or conduction block proximal to the elbow. Carpal tunnel syndrome (A) prolongs distal latency. Uniform axonal loss (C) would not selectively worsen with proximal stimulation. Conduction block at the wrist (D) would prolong distal latency, which is normal here.

QUESTION 3 SINGLE CHOICE

Which spontaneous activity finding on needle electromyography is most specific for chronic denervation followed by reinnervation?

A Positive sharp waves

B Fibrillation potentials

C Myotonic discharges

D Long-duration, polyphasic motor unit action potentials with reduced recruitment

ANSWER D

WHY Long-duration, polyphasic motor unit action potentials (MUAPs) with reduced recruitment reflect collateral sprouting and reinnervation following chronic denervation. Positive sharp waves (A) and fibrillation potentials (B) indicate active denervation. Myotonic discharges (C) are characteristic of myotonic disorders, not reinnervation.

QUESTION 4 SINGLE CHOICE

A delay or absence of the P100 wave on pattern-reversal visual evoked potential (VEP) testing most strongly suggests a lesion involving which structure?

A Peripheral optic nerve fibers at the retina

B The prechiasmal optic nerve or chiasmal region

C The lateral geniculate nucleus and optic radiations only

D The oculomotor cranial nerve nucleus

ANSWER B

WHY The P100 component of pattern-reversal VEPs assesses conduction through the prechiasmal optic nerve and chiasmal region; delay or absence is the hallmark finding in optic neuropathies such as optic neuritis. The retina (A) is not assessed by VEPs. Lesions limited to the postchiasmal radiations (C) typically affect VEP amplitude or later components rather than P100 latency. The oculomotor nerve (D) is a motor pathway not assessed by VEPs.

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QUESTION 5 SINGLE CHOICE

When integrating needle electromyography and nerve conduction studies for a patient with suspected lumbar radiculopathy, which electrodiagnostic finding best confirms an active, acute, axon-loss L5 radiculopathy affecting the tibialis anterior?

A Reduced recruitment of motor unit action potentials in the tibialis anterior only

B Isolated prolongation of fibular motor distal latency with normal EMG

C Fibrillation potentials and positive sharp waves in the tibialis anterior with normal fibular motor nerve conduction studies

D Polyphasic motor unit action potentials in the gastrocnemius with normal recruitment

ANSWER C

WHY Active denervation (fibrillation potentials and positive sharp waves) in a myotomal muscle combined with normal peripheral nerve conduction localizes the lesion to the root (L5 radiculopathy) rather than a peripheral neuropathy. Reduced recruitment alone (A) is nonspecific and may reflect pain or poor effort. Prolonged distal latency (B) suggests a distal peripheral lesion. Polyphasic MUAPs in the gastrocnemius (D) reflect chronic reinnervation in an S1 distribution, not acute L5 axon loss.

QUESTION 6 SINGLE CHOICE

Sixty-hertz (line frequency) interference contaminating a nerve conduction study tracing is most effectively reduced by which action?

A Increasing the low-frequency (high-pass) filter cutoff

B Ensuring proper electrode impedance balance and using a notch filter at the line frequency

C Lowering the stimulus intensity to below supramaximal levels

D Increasing skin temperature to above physiologic range

ANSWER B

WHY 60-Hz interference is reduced by ensuring low and balanced skin-electrode impedance, shielding the leads, and applying a notch filter at the offending line frequency. Raising the high-pass filter (A) attenuates low-frequency signal content and does not remove line noise. Submaximal stimulation (C) is a methodological error. Heating skin (D) changes physiologic parameters, not electrical interference.

QUESTION 7 SINGLE CHOICE

Which of the following is an absolute contraindication to performing needle electromyography on a patient?

A Presence of an implanted cardiac pacemaker

B Therapeutic anticoagulation with warfarin

C Active deep soft tissue infection in the area to be examined

D Latex allergy in a patient without prior sensitization

ANSWER C

WHY Active infection at the needle insertion site is an absolute contraindication to needle EMG due to the risk of spreading infection into deeper tissues. Implanted pacemakers (A) require caution but are not an absolute contraindication for needle EMG; many guidelines permit needle EMG with appropriate precautions. Anticoagulation (B) is a relative concern requiring risk-benefit consideration. Simple latex allergy (D) can be managed with non-latex equipment.

QUESTION 8 SINGLE CHOICE

In an upper motor neuron lesion, which electrophysiologic finding would most likely be observed on needle EMG?

A Fibrillation potentials and positive sharp waves in affected muscles

B Reduced recruitment of motor unit action potentials with normal MUAP morphology

C Myotonic discharges in distal muscles

D Small, short-duration polyphasic motor unit action potentials with early recruitment

ANSWER B

WHY Upper motor neuron lesions produce loss of descending input to the lower motor neuron pool, resulting in reduced recruitment of otherwise normal-appearing MUAPs. Fibrillations and positive sharp waves (A) indicate lower motor neuron (axon-loss) injury. Myotonic discharges (C) suggest myotonic muscle disease. Small, short, polyphasic MUAPs (D) are characteristic of myopathic processes.

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QUESTION 9 MULTIPLE CHOICE

During a routine median nerve motor conduction study at the wrist, the recorded compound muscle action potential (CMAP) shows a normal distal latency and normal conduction velocity, but the amplitude is markedly reduced compared with the contralateral side. Which of the following technical or physiologic factors should the examiner consider first as a potential cause? (Choose two.)

A Submaximal stimulation at the wrist with inadvertent cathode-anode reversal

B Recording electrode placed off the motor point of the abductor pollicis brevis

C Limb temperature that has fallen below the standard reference range for nerve conduction studies

D Coexisting carpal tunnel syndrome producing focal slowing across the wrist segment

E Presence of a Martin-Gruber anastomosis contributing to the recorded response

ANSWER **B · E**

WHY A markedly reduced CMAP amplitude with preserved latency and conduction velocity suggests either inadequate recording (electrode off the motor point) or anomalous innervation such as a Martin-Gruber anastomosis. Submaximal stimulation would prolong latency, cooling would slow conduction velocity and prolong latency, and carpal tunnel syndrome would prolong the distal motor latency. Therefore, B and E are the most appropriate considerations.

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