

Chapter 2 The Physiology and Psychology of Pain

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- ___ 1. Which statement best describes nociception?
- A. Nociception must be interpreted as pain by higher brain centers.
 - B. Nociception is a neuropsychological process that must be interpreted as pain.
 - C. Nociception describes an unpleasant sensation.
 - D. Nociception is the neural process of encoding and processing noxious stimuli.
- ___ 2. Which of the following dimensions of pain perception localize the source and type of pain?
- A. Effective-terminal
 - B. Sensory-discriminative
 - C. Cognitive-evaluative
 - D. Affective-motivational
- ___ 3. Pain threshold is often based on the recruitment of _____ fibers.
- A. A-delta
 - B. A-beta
 - C. C
 - D. COX-1
- ___ 4. Memories of past experiences are a component that creates one's "pain filter." Where do these memories come from?
- A. Limbic system
 - B. Cerebral cortex
 - C. Somatosensory system
 - D. Thalamus
- ___ 5. What best defines pain that is produced from a normally nonpainful stimulus?
- A. Hyperesthesia
 - B. Hyperalgesia
 - C. Primary hyperalgesia
 - D. Primary hyperesthesia
- ___ 6. In pain control theory, which is considered a secondary pain control approach?
- A. Target the perception of pain
 - B. Resolve physiological pain triggers
 - C. Decrease mechanical irritation
 - D. Decrease chemical irritation
- ___ 7. Which scenario will result in a closing of the gate, thus inhibiting the pain signal from getting to the second-order neuron?
- A. Large-diameter afferent traffic is greater than small diameter.
 - B. Small-diameter afferent traffic is greater than large diameter.
 - C. Increase speed of small-diameter afferent transmission.
 - D. Increase speed of large-diameter afferent transmission.
- ___ 8. Damage to the diaphragm can result in referred pain to the skin and muscles of the _____.
- A. neck and shoulder
 - B. lower back

- C. thigh and knee
 - D. anterior thorax
- ___ 9. Which therapeutic modality has the ability to alter cell membrane permeability and thus alter the rate of nerve depolarization?
- A. Cold packs
 - B. Therapeutic ultrasound
 - C. Electrical stimulation
 - D. Intermittent compression
- ___ 10. Which inflammatory pain mediator is released by mast cells to directly stimulate nociceptors?
- A. Bradykinins
 - B. Prostaglandin
 - C. Substance P
 - D. Histamine
- ___ 11. What mechanoreceptor is located deeper in the skin and reacts to higher levels of mechanical pressure?
- A. Merkel's disks
 - B. Meissner's corpuscles
 - C. Pacinian corpuscles
 - D. Ruffini corpuscles
- ___ 12. What does the verbal rating scale use to represent the current pain intensity of a patient?
- A. 10-cm line
 - B. Different faces
 - C. Numbers 1 through 10
 - D. Descriptive terms
- ___ 13. Regarding pain control, the primary action of NSAIDS is to block the action of what inflammatory pain mediator?
- A. Bradykinins
 - B. Prostaglandin
 - C. Substance P
 - D. Histamine
- ___ 14. What substance is released by the body and reduces the perception of pain by bonding to pain receptor sites?
- A. Serotonin
 - B. Enkephalin
 - C. Mast cells
 - D. Tract cells
- ___ 15. What pain-decreasing medication temporarily blocks nerve conduction, thus resulting in the loss of sensation?
- A. Aspirin
 - B. Lidocaine
 - C. Endorphin
 - D. Propoxyphene

Multiple Response

Identify one or more choices that best complete the statement or answer the question.

- ___ 1. Which therapeutic modalities can provide mechanical pain reduction by removing swelling, restoring joint motion, decreasing pressure on nerve endings, and restoring blood flow? *Select all that apply.*

- A. Intermittent compression
- B. Continuous passive motion
- C. Shortwave diathermy
- D. Electrical stimulation
- E. Cervical/lumbar traction

- _____ 2. Which statements are true regarding the afferents responsible for transmitting pain? *Select all that apply.*
- A. The fibers that transmit pain are A-beta and C fibers.
 - B. The fibers are heavily myelinated.
 - C. A-delta fibers give ability to localize pain to a specific spot.
 - D. Both types of fibers respond to mechanical pressure and temperature extremes.
 - E. Pain originating from C fibers is referred to as “fast” pain.
- _____ 3. Which of the following are examples of mechanical stimuli that can trigger peripheral nociceptors? *Select all that apply.*
- A. Thermal changes associated with the inflammatory response
 - B. Direct-force trauma
 - C. Release of prostaglandins from trauma
 - D. Pressure from swelling
- _____ 4. Which of the following are associated with pain tolerance? *Select all that apply.*
- A. Limbic system
 - B. C fibers
 - C. Cortex
 - D. A-delta fibers
 - E. Thalamus
- _____ 5. Which statements are true regarding the definition of pain? *Select all that apply.*
- A. Pain is an unpleasant sensory and emotional experience.
 - B. Pain is associated only with actual tissue damage and not potential damage.
 - C. Pain is always an emotional experience.
 - D. Acute pain has an identifiable cause and extended duration.
 - E. Pain is just a simple sensation and not a process.

Chapter 2 The Physiology and Psychology of Pain Answer Section

MULTIPLE CHOICE

1. ANS: D PTS: 1
2. ANS: B PTS: 1
3. ANS: A PTS: 1
4. ANS: A PTS: 1
5. ANS: A PTS: 1
6. ANS: A PTS: 1
7. ANS: A PTS: 1
8. ANS: A PTS: 1
9. ANS: B PTS: 1
10. ANS: D PTS: 1
11. ANS: C PTS: 1
12. ANS: D PTS: 1
13. ANS: A PTS: 1
14. ANS: B PTS: 1
15. ANS: B PTS: 1

MULTIPLE RESPONSE

1. ANS: A, B, E PTS: 1
2. ANS: C, D PTS: 1
3. ANS: B, D PTS: 1
4. ANS: A, B, C PTS: 1
5. ANS: A, C PTS: 1