Chapter 02: Mechanisms of Health and Disease
Fritz: Mosby's Essential Sciences for Therapeutic Massage, 5th Edition

MULTIPLE CHOICE

1. A(n) __________ would have a specific beginning with signs and symptoms that develop quickly.
   a. acute disease
   b. chronic disease
   c. long-term illness
   d. short-term illness

   ANS: A  DIF: 1  REF:  p. 30

2. Sudden onset, usually temporary, and easily localized describes what type of pain experience?
   a. Visceral
   b. Acute
   c. Somatic
   d. Chronic

   ANS: B  DIF: 1  REF:  p. 40|p. 41

3. What is the term for movement toward a center or point of reference?
   a. Efferent
   b. Centrifugal
   c. Afferent
   d. Circular

   ANS: C  DIF: 1  REF:  p. 27|p. 28

4. What is abnormal or undifferentiated cells that fail to mature into specialized cell types?
   a. Hypoplasia
   b. Hyperplasia
   c. Dysplasia
   d. Anaplasia

   ANS: D  DIF: 1  REF:  p. 33

5. What is the term that usually describes a noncancerous tumor that is contained and does not spread?
   a. Benign
   b. Neoplasm
   c. Anaplasia
   d. Neoplasia

   ANS: A  DIF: 1  REF:  p. 33

6. What is the internal, periodic timing component of an organism also known as?
   a. Circadian rhythm
   b. Biologic rhythm
   c. Biologic oscillator

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d. Seasonal rhythm  
ANS: B    DIF: 1    REF: p. 29

7. The term for malignant, nonencapsulated cells that invade surrounding tissue is  
   a. dosha.  
   b. fistula.  
   c. cancer.  
   d. sinus.  
ANS: C    DIF: 1    REF: p. 33

8. Pain sensation that continues or recurs over a prolonged time, usually for more than 6 months is  
   a. acute.  
   b. bright.  
   c. somatic.  
   d. chronic.  
ANS: D    DIF: 1    REF: p. 41

9. The term for a disease with a vague onset that develops slowly and lasts for a long time, sometimes for life, is  
   a. chronic disease.  
   b. acute disease.  
   c. short-term illness.  
   d. long-term disability.  
ANS: A    DIF: 1    REF: p. 31

10. What is the labeling of signs and symptoms by a licensed medical professional?  
    a. Prognosis  
    b. Diagnosis  
    c. Assessment  
    d. Prescription  
ANS: B    DIF: 1    REF: p. 30

11. An abnormality in functions of the body, especially when the abnormality threatens well-being, is a  
    a. problem.  
    b. condition.  
    c. disease.  
    d. syndrome.  
ANS: C    DIF: 1    REF: p. 30

12. An Ayurvedic concept that describes chemical processes in the body is  
    a. reiki.  
    b. chakra.  
    c. mudra.  
    d. dosha.
13. What is movement away from a center or point of reference?
   a. Efferent
   b. Afferent
   c. Origin
   d. Contraction
   ANS: A DIF: 1 REF: p. 28

14. Coordination or synchronization to an internal or external rhythm is known as
   a. movement.
   b. entrainment.
   c. alignment.
   d. attunement.
   ANS: B DIF: 1 REF: p. 29

15. The study of the factors involved in the development of disease, including the nature of the disease and susceptibility, is
   a. genealogy.
   b. pathology.
   c. etiology.
   d. pathophysiology.
   ANS: C DIF: 1 REF: p. 30

16. An abnormal connection occurring between two surfaces via a tract that is open at both ends is a
   a. sinus.
   b. tunnel.
   c. gateway.
   d. fistula.
   ANS: D DIF: 1 REF: p. 39

17. A self-regulating control system in the body that receives information, integrates that information, and provides a response to maintain homeostasis is a
   a. feedback loop.
   b. stress response.
   c. reflex.
   d. reaction.
   ANS: A DIF: 1 REF: p. 27

18. Which of the following is the term for the body mobilizing different defense mechanisms when threatened by actual or perceived harmful stimuli?
   a. Entrainment
   b. Adaptation
   c. Negative feedback loop
   d. Positive feedback loop
   ANS: B DIF: 1 REF: p. 25|p. 30
19. The condition of homeostasis resulting in a state of physical, emotional, social, and spiritual well-being is
   a. disease.
   b. remission.
   c. health.
   d. balance.

   ANS: C  DIF: 1  REF: p. 25

20. The relatively constant state of the internal environment of the body that is maintained by adaptive responses is known as
   a. hypertonicity.
   b. metabolism.
   c. conductivity.
   d. homeostasis.

   ANS: D  DIF: 1  REF: p. 25

21. What is an uncontrolled increase in the number of cells of a body part?
   a. Hyperplasia
   b. Anemia
   c. Hypoplasia
   d. Ischemia

   ANS: A  DIF: 1  REF: p. 32

22. What is an increased sensitivity to pain?
   a. Analgesia
   b. Hyperalgesia
   c. Hypoalgesia
   d. Hyperanalgesia

   ANS: B  DIF: 1  REF: p. 38

23. The protective response of the tissues to irritation or injury that has the four primary signs of redness, heat, swelling, and pain is
   a. injury.
   b. anemia.
   c. inflammation.
   d. edema.

   ANS: C  DIF: 1  REF: p. 34

24. A chronic condition without active disease present or that persists even with treatment is considered what type of pain experience?
   a. Somatic
   b. Visceral
   c. Incorrigible
   d. Intractable

   ANS: D  DIF: 1  REF: p. 41
25. In Ayurveda, what physiologic function blends the water and earth elements?
   a. Kapha dosha
   b. Pitta dosha
   c. Vata dosha
   d. Chakra dosha

   **ANS:** A  **DIF:** 1  **REF:** p. 27

26. What is any abnormal growth of new tissue?
   a. Contusion
   b. Neoplasm
   c. Sinus
   d. Fistula

   **ANS:** B  **DIF:** 1  **REF:** p. 31

27. Organisms that cause disease only when the immunity is low in a host are what type of pathogens?
   a. Invasive
   b. Intravenous
   c. Opportunistic
   d. Offensive

   **ANS:** C  **DIF:** 1  **REF:** p. 31

28. What is development of a disease?
   a. Pathology
   b. Etiology
   c. Physiology
   d. Pathogenesis

   **ANS:** D  **DIF:** 1  **REF:** p. 30

29. Which of the following is the term for an unpleasant, subjective sensation?
   a. Pain
   b. Signs
   c. Symptoms
   d. Syndrome

   **ANS:** A  **DIF:** 1  **REF:** p. 40

30. What is the ability of an infectious agent to cause disease?
   a. Pathology
   b. Pathogenicity
   c. Pathophysiology
   d. Pharmacology

   **ANS:** B  **DIF:** 1  **REF:** p. 31

31. What is the study of disease as observed in the structure and function of the body?
   a. Physiology
   b. Anatomy
   c. Pathology

   **ANS:** A  **DIF:** 1  **REF:** p. 40
32. When a sensation is experienced in a missing extremity after it has been amputated, it is referred to as what type of pain?
   a. Invisible
   b. Somatic
   c. Visceral
   d. Phantom

   ANS: D  DIF: 1  REF: p. 42

33. In Ayurveda, what is a physiologic function that combines fire and water?
   a. Pitta dosha
   b. Kapha dosha
   c. Vata dosha
   d. Chakra dosha

   ANS: A  DIF: 1  REF: p. 26

34. Being felt in a surface area far from the stimulated organ describes _____ pain.
   a. regional
   b. referred
   c. visceral
   d. somatic

   ANS: B  DIF: 1  REF: p. 42

35. What is a reversal of signs and symptoms in chronic disease that can be temporary or permanent?
   a. Acute phase
   b. Regeneration
   c. Remission
   d. Reduction

   ANS: C  DIF: 1  REF: p. 31

36. What are the objective changes that someone other than the client or patient can observe and measure?
   a. Symptoms
   b. Assessments
   c. Evaluations
   d. Signs

   ANS: D  DIF: 1  REF: p. 30

37. Organisms that cause disease are
   a. pathogens.
   b. opportunistic.
   c. benign.
   d. idiopathic.
38. Stimulation of receptors in the skin or stimulation of receptors in skeletal muscles, joints, tendons, and fasciae can result in what type of pain sensation?
   a. Visceral
   b. Somatic
   c. Referred
   d. Diffused

   ANS: B   DIF: 1   REF: p. 41

39. Any external or internal stimulus that requires a change or response to prevent an imbalance in the internal environment of the body, mind, or emotions is referred to as
   a. pressure.
   b. strain.
   c. stress.
   d. tension.

   ANS: C   DIF: 1   REF: p. 25

40. Groups of signs and symptoms that identify a pathologic condition, especially when they have a common cause, are considered
   a. communicable.
   b. congenital.
   c. syndromes.
   d. subacute.

   ANS: C   DIF: 1   REF: p. 31

41. What are the subjective changes noticed or felt only by the client or patient?
   a. Signs
   b. Assessments
   c. Somatic pain
   d. Symptoms

   ANS: D   DIF: 1   REF: p. 30

42. What is the term for a group of different signs and symptoms that identify a pathologic condition, especially when they have a common cause?
   a. Syndrome
   b. Disease
   c. Disorder
   d. Malady

   ANS: A   DIF: 1   REF: p. 31

43. In Ayurveda, what is the physiologic function formed from ether and air?
   a. Pitta dosha
   b. Vata dosha
   c. Kapha dosha
   d. Chakra dosha

   ANS: B   DIF: 1   REF: p. 26
44. If organisms have the quality that enables them to cause disease they are called
   a. strong.
   b. potent.
   c. virulent.
   d. communicable.
   ANS: C      DIF: 2      REF:  p. 31

45. Stimulation of receptors or an abnormal condition in the internal organs can result in what
type of pain?
   a. Somatic
   b. Superficial
   c. Deep
   d. Visceral
   ANS: D      DIF: 1      REF:  p. 41

46. A person is expected to recover from a car accident, he is in an induced coma to give his
surgical wounds time to heal by keeping him still during recovery. If this coma is considered a
yin state, what would be a yang state in his healing process?
   a. Natural sleep
   b. A “natural” coma, as opposed to this induced one
   c. Natural methods of relaxation and meditation
   d. Physical therapy
   ANS: D      DIF: 3      REF:  p. 26

47. In Ayurveda, what does the Kapha dosha do?
   a. Blends the water and earth elements
   b. Divides the cells
   c. Combines fire and water
   d. Represents transformation
   ANS: A      DIF: 2      REF:  p. 26

48. An accurate feedback loop is described by which of the following?
   a. A signal traveling toward a particular point of reference is an efferent signal.
   b. Positive feedback reverses the original stimulus and thus stabilizes physiologic
      function to help maintain a constant environment.
   c. The pain-spasm-pain cycle is a negative feedback loop.
   d. The mechanism that keeps contractions occurring during labor and delivery is an
      example of positive feedback.
   ANS: D      DIF: 3      REF:  p. 27

49. What is a biologic rhythm that repeats itself every 90 minutes to every few hours?
   a. Circadian
   b. Ultradian
   c. Seasonal
   d. Entrainment
   ANS: B      DIF: 2      REF:  p. 29
50. What is the term for a disease that can be transmitted from one person to another?
   a. Communicable
   b. Acute
   c. Subacute
   d. Chronic
   ANS: A  DIF: 1  REF: p. 31

51. What is the study of the frequency, transmission, occurrence, and distribution of disease in human beings?
   a. Etiology
   b. Epidemiology
   c. Pathology
   d. Diagnosis
   ANS: B  DIF: 1  REF: p. 30

52. What is the term for the group of objective and subjective changes that occur in a pathologic condition?
   a. Syndrome
   b. Sign
   c. Symptom
   d. Biochemical lesion
   ANS: A  DIF: 1  REF: p. 30

53. A disease that seems to have no discernible cause that anyone can identify is considered
   a. etiologic.
   b. opportunistic.
   c. idiopathic.
   d. virulent.
   ANS: C  DIF: 2  REF: p. 30

54. The explanation of how a disease progresses, as well as its probable outcome, is
   a. diagnosis.
   b. remission.
   c. prognosis.
   d. pathogenicity.
   ANS: C  DIF: 2  REF: p. 30

55. The term for disease caused by pathogens is
   a. virulent.
   b. infectious.
   c. viral.
   d. opportunistic.
   ANS: B  DIF: 1  REF: p. 31

56. Pathogenic plantlike organisms that lack chlorophyll are
   a. viruses.
b. flukes.
c. fungi.
d. bacteria.
ANS: C    DIF: 1    REF: p. 33

57. Hyperplasia is the term for which of the following?
   a. Abnormal tissue growth from uncontrolled cell division
   b. A union of cells
   c. Atrophy of muscle tissue
   d. A benign tumor of adipose tissue
ANS: A    DIF: 1    REF: p. 31

58. Eli’s lab test results show that there is evidence of anaplasia in some of his cells. From this, his doctor accurately knows which of the following?
   a. Eli does not have cancer.
   b. At least some of Eli’s cells are reproducing abnormal and undifferentiated cells that fail to mature into specialized types.
   c. Eli has an encapsulated tumor that may interfere with function by blocking functional tissue or pressing on pain-sensitive structures.
   d. Eli’s cells contain chemicals that affect genetic activity to speed recovery from an infection or injury.
ANS: B    DIF: 2    REF: p. 33

59. What are key signs in the inflammatory response?
   a. Heat and redness
   b. Swelling
   c. Pain
   d. All of the above
ANS: D    DIF: 1    REF: p. 35

60. Jaheem has an infection with inflammation. All of the following should occur except
   a. changes in blood circulation.
   b. reduced vessel wall permeability.
   c. white blood cell response.
   d. release of histamine mediators.
ANS: B    DIF: 2    REF: p. 35

61. Stacey cuts her finger while slicing an apple and experiences an intense but short-lived, sharp, local superficial pain. What type of pain is this?
   a. Chronic
   b. Somatic
   c. Deep
   d. Visceral
ANS: B    DIF: 1    REF: p. 41

62. Anton’s gallstones have him doubled over. He is experiencing which of the following types of intense pain?
63. Jillian has pain on the right side of her neck. If this is referred visceral pain, she may need to be referred for diagnosis to rule out dysfunction in her
   a. lungs or diaphragm.
   b. stomach or gallbladder.
   c. kidneys or heart.
   d. liver or gallbladder.
   ANS: D  DIF: 2  REF: p. 42

64. When is phantom pain felt?
   a. In response to pain from an organ
   b. During the pain-spasm-pain cycle
   c. Frequently after an amputation
   d. During a chronic inflammatory disease
   ANS: C  DIF: 1  REF: p. 42

65. Biofeedback relieves pain when
   a. a needle is inserted along specific body meridians.
   b. pressure is applied along certain body meridians.
   c. an individual focuses on a exercise training.
   d. the individual learns to inhibit the impulses ascending the pain pathways.
   ANS: D  DIF: 1  REF: p. 46

66. Tony reaches his pain threshold when
   a. he begins to experience enough relief that he can carry on a conversation in a normal tone of voice.
   b. his nociceptors first begin to fire.
   c. he has reached his limit of tolerance.
   d. communication with his pain receptors is successfully interrupted by chemical or alternative pain management techniques.
   ANS: B  DIF: 2  REF: p. 43

67. Joey schedules a massage for his lower back because he knows that massage can do which of the following to help relieve his pain?
   a. Stimulate sensory receptors other than nociceptors
   b. Inhibit release of histamine
   c. Help local blood vessels to constrict
   d. Decrease the conduction of nerve impulses into the brain
   ANS: A  DIF: 1  REF: p. 46

68. In order, what is the sequence of stages in the general adaptation syndrome?
   a. General adaptation; fight-or-flight; resistance reaction
b. Fight-or-flight; general adaptation; exhaustion reaction

c. Resistance reaction; fight-or-flight; exhaustion reaction; recovery and general adaptation

d. Fight-or-flight; resistance reaction; exhaustion reaction

ANS: D  DIF: 2  REF: p. 49

69. During her massage, Luisa’s body is able to entrain. This means that her body
a. is able to achieve a state of increased physical fitness.
b. is able to let go of all forms of stress.
c. synchronizes biologic rhythms.
d. allows itself to be in a state of controlled exhaustion.

ANS: C  DIF: 3  REF: p. 29

70. Research has validated that massage is effective as part of the treatment process for many different health-related conditions. Which of the following explains why?
a. Massage supports homeostatic processes.
b. Massage generates a positive feedback loop.
c. The Ayurvedic chakras are inhibited during massage.
d. The unified methods of yin yang and Pitta, Kapha, and Vata doshas suppress entrainment.

ANS: A  DIF: 3  REF: p. 52

71. One of the principles of massage, especially for relaxation, is focused rhythmic application in a quiet environment with soothing music. What physical phenomenon is involved?

a. Conditioning
b. Entrainment

c. Conductivity
d. Assessment

ANS: B  DIF: 3  REF: p. 29

72. Friction is used on an area of fibrotic scar tissue because friction causes what physiologic mechanism for change in the tissue?

a. Conductivity
b. Extensibility
c. Hyperplasia
d. Inflammation

ANS: D  DIF: 3  REF: p. 37

73. Which of the following methods easily combines with massage and further supports pain management by interacting with the brain through the sense of smell?

a. Placebo method
b. Acupuncture
c. Aromatherapy
d. Hypnosis

ANS: C  DIF: 3  REF: p. 46
74. If the massage professional is part of a multidisciplinary team for pain management, which of the following creates the most need to alter the massage approach?
   a. Application of heat
   b. Music therapy
   c. Biofeedback
   d. Medication

   ANS: D  DIF: 3  REF: p. 46

75. In a multidisciplinary approach to pain management, which of the following most directly addresses the mind?
   a. Surgical techniques
   b. Hypnosis
   c. Acupressure
   d. Hydrotherapy

   ANS: B  DIF: 2  REF: p. 46

76. A massage therapist notices during assessment that a client’s muscles are tense and an eye muscle is twitching. Based on these observations, which of the following is likely increased?
   a. Epinephrine
   b. Digestive secretions
   c. Peristalsis
   d. Heart rate and muscle relaxation

   ANS: A  DIF: 3  REF: p. 50|p. 52

77. A client has had to attend to both a death and a wedding in the immediate family. Which of the following is the appropriate massage application?
   a. Increase adaptive strain through general massage.
   b. Increase sympathetic responses through energy-based methods.
   c. Decrease adaptive strain through general massage.
   d. Decrease the autoimmune response by using energy-based methods.

   ANS: C  DIF: 3  REF: p. 52

78. A massage therapist has been in practice for 25 years. She became a massage therapist in her mid-20s and is now just over 50 years of age. During this time she has had two babies, a serious health event, a major surgery, and she is concerned about being happy, productive, and secure in her outcome for the rest of her life. What is being described?
   a. The general adaptation syndrome
   b. Risk factors of the stress response
   c. Various stages of the life cycle
   d. Adaptation to immune suppression

   ANS: C  DIF: 3  REF: p. 53

79. The various cultural healing arts presented in this text can be described as
   a. being ineffective because they cannot explain homeostasis.
   b. dealing only with the parts of the body, not the whole person.
   c. using their own terminology to describe homeostasis.
   d. keeping the elements of nature separate from the body.
ANS: C DIF: 1 REF: p. 26

80. The parts of a feedback loop can be described as
a. the major cause of disease.
b. contributing to maintaining homeostasis.
c. a disruption of the body’s self-regulation.
d. having a sensor, a control center, and an effector.

ANS: D DIF: 1 REF: p. 27

81. The synchronization of biologic rhythms includes that it
a. promotes homeostasis and supports a healthy body.
b. requires sympathetic activities to predominate.
c. is unaffected by external components, such as sunlight or weather.
d. is very difficult for the body to accomplish.

ANS: A DIF: 1 REF: p. 29

82. Which of the following is a description of what massage and other forms of bodywork and movement therapies can do for the body?
a. Cause pathogenesis, which will reverse the development of disease
b. Support maintenance and return to a healthy state
c. Support the various pathologies in the body
d. Have no effect on the abnormal functions of disease states

ANS: B DIF: 1 REF: p. 25

83. A feature of the inflammatory response is that it is
a. a major cause of disease in the body.
b. a combination of processes that attempt to minimize tissue injury.
c. always separate from immune reactions.
d. identified by the three primary signs of heat, exudation, and cell regeneration.

ANS: B DIF: 1 REF: p. 34

84. The definition of risk factors is that they are
a. the major causes of disease.
b. unaffected by changes in lifestyle or activities.
c. influences that can put a person at risk for developing disease.
d. all environmental.

ANS: C DIF: 1 REF: p. 31

85. Pain is a complex, private, abstract experience that also has what characteristic?
a. Usually very easy to describe
b. Without any psychological or social aspects
c. Rarely causes a person to seek medical help
d. Not easy to define and measure

ANS: D DIF: 1 REF: p. 40

86. What is hypersensitivity to pain?
a. Hyperalgesia  
b. Intractable  
c. Analgesia  
d. Voluntary splinting  
ANS: A  DIF: 1  REF: p. 40

87. The appropriate action for the massage professional to take for a client who has referred pain is to  
a. use deeper pressure on the corresponding area.  
b. refer the client to a physician for a diagnosis.  
c. disrupt signals from the brain by using shaking techniques.  
d. initiate a reflex contraction.  
ANS: B  DIF: 1  REF: p. 42

88. An accurate portrayal of people who experience excessive or ongoing stress is that they  
a. should not have bodywork while under the stress.  
b. will not have panic or anxiety attacks.  
c. can have a decrease in immune function.  
d. are always receiving too much exposure to stimuli.  
ANS: C  DIF: 1  REF: p. 51

89. A massage practitioner is feeling the stress of time management and balance between career and family focus. Which of the following care plans would be the most productive?  
a. Reducing risk factors specifically related to intractable pain  
b. Reducing adaptive capacity by increasing the potential for the inflammatory response to influence anaplasia  
c. Combining stress management methods to support sleep  
d. Differentiating between biologic rhythms at work and home, and then using etiology to reduce stress  
ANS: C  DIF: 3  REF: p. 48

90. Which of the following is not an inflammatory mediator?  
a. Histamines  
b. Bradykinin  
c. Anaplasia  
d. Arachidonic acid  
ANS: C  DIF: 2  REF: p. 35

91. Based on Maslow’s hierarchy of needs as a model for a psychological life cycle, which of the following describes the social stage?  
a. Concerned about survival  
b. Developing family and friends  
c. Status within the social structure  
d. Achieving our life purpose  
ANS: B  DIF: 1  REF: p. 54

92. Which of the following stages best describes a 10-year-old child?
a. Conception  
b. Birth  
c. Growth  
d. Social  
ANS: C  DIF: 1  REF: p. 54

93. A client just got married and is planning a family. What emotional stage best describes this activity?
   a. Physiological  
b. Security  
c. Social  
d. Self-actualization
   ANS: C  DIF: 1  REF: p. 54

94. The expected outcome in a client who has a disease is the
   a. prognosis.  
b. pathogenicity.  
c. etiology.  
d. epidemiology.
   ANS: A  DIF: 1  REF: p. 31