1. Transcutaneous Electrical Nerve Stimulator (TENS)

1. **TENS therapy** is primarily used for _____ management.
   a) Blood pressure
   b) Pain
   c) Heart rate
   d) Digestion
   Answer: b) Pain

2. **TENS works by delivering electrical pulses to the skin to stimulate _____.**
   a) Muscles
   b) Nerve endings
   c) Bone marrow
   d) Blood vessels
   Answer: b) Nerve endings

3. The two main types of TENS stimulation are **conventional TENS and _____ TENS.**
   a) High-intensity
   b) Low-frequency
   c) Acupuncture-like
   d) Direct current
   Answer: c) Acupuncture-like

4. **The main function of TENS is to block pain signals from reaching the _____.**
   a) Spinal cord
   b) Brain
   c) Muscles
   d) Skin surface
   Answer: b) Brain

5. **TENS devices work based on the _____ theory of pain modulation.**
   a) Endorphin
   b) Gate control
   c) Frequency shifting
   d) Heat transfer
   Answer: b) Gate control

6. **A major contraindication for TENS therapy is in patients with _____.**
   a) High blood pressure
   b) Cardiac pacemakers
   c) Diabetes
   d) Muscle spasms
   Answer: b) Cardiac pacemakers

7. **The most common frequency range used in TENS therapy is between _____ Hz.**
   a) 1-10
   b) 50-100
   c) 200-500
   d) 10,000-50,000
   Answer: b) 50-100

8. **The placement of TENS electrodes should be near the _____.**
   a) Heart

b) Pain source
c) Spine
d) Lungs
Answer: b) Pain source

9. **Biofeedback therapy helps individuals control physiological functions such as _____.**
   a) Digestive enzyme secretion
   b) Blood sugar levels
   c) Heart rate and muscle tension
   d) Eye movement
   Answer: c) Heart rate and muscle tension

10. **Electromyography (EMG) biofeedback measures the activity of _____.**
    a) Neurons
    b) Muscles
    c) Blood vessels
    d) Skin cells
    Answer: b) Muscles

11. **Electroencephalography (EEG) biofeedback is also known as _____ training.**
    a) Muscle
    b) Brainwave
    c) Thermal
    d) Acoustic
    Answer: b) Brainwave

12. **A common application of biofeedback is the treatment of _____.**
    a) Fractures
    b) Chronic pain and stress
    c) Diabetes
    d) Bacterial infections
    Answer: b) Chronic pain and stress

13. **The process of biofeedback involves using _____ to help patients understand their physiological functions.**
    a) Computer software
    b) Electrical impulses
    c) Sound waves
    d) Manual stimulation
    Answer: a) Computer software

14. **Thermal biofeedback monitors _____ to assess stress and circulation.**
    a) Brain activity
    b) Skin temperature
    c) Heart rate
    d) Breathing pattern
    Answer: b) Skin temperature

15. **Heart rate variability (HRV) biofeedback is commonly used to improve _____.**
    a) Blood sugar levels
    b) Cardiovascular health
    c) Digestion speed

d) Body temperature
Answer: b) Cardiovascular health

16. **Galvanic Skin Response (GSR) biofeedback measures changes in _____.**
    a) Brain waves
    b) Skin conductivity
    c) Muscle tone
    d) Blood pressure
    Answer: b) Skin conductivity

17. **Point-of-care (POC) testing refers to diagnostic testing performed _____.**
    a) In centralized laboratories
    b) Near the patient
    c) Only in hospitals
    d) By radiologists
    Answer: b) Near the patient

18. **One of the main advantages of POC testing is _____.**
    a) Faster results
    b) Higher complexity
    c) Larger equipment
    d) Increased sample requirements
    Answer: a) Faster results

19. **A commonly used point-of-care diagnostic tool for diabetes is _____.**
    a) ECG machine
    b) Blood glucose monitor
    c) MRI scanner
    d) Spirometer
    Answer: b) Blood glucose monitor

20. **POC testing is especially useful in _____ settings.**
    a) Remote and emergency
    b) Only in research labs
    c) Highly urbanized areas
    d) Dental clinics
    Answer: a) Remote and emergency

21. **The main limitation of POC diagnostic devices compared to laboratory tests is their _____.**
    a) Speed
    b) Accuracy and sensitivity
    c) Ease of use
    d) Availability
    Answer: b) Accuracy and sensitivity

22. **Microfluidic lab-on-a-chip technology in POC testing allows for _____.**
    a) Large sample processing
    b) Miniaturized chemical analysis
    c) MRI scans
    d) Long-term storage
    Answer: b) Miniaturized chemical analysis

23. **Rapid antigen tests are commonly used for the detection of _____.**
    a) Heart rate
    b) Infectious diseases
    c) Blood clotting disorders
    d) Diabetes
    Answer: b) Infectious diseases

24. **A major benefit of wearable diagnostic devices is their ability to provide _____.**
    a) Real-time monitoring
    b) Genetic analysis
    c) Complex tissue imaging
    d) Drug formulation
    Answer: a) Real-time monitoring

25. **Portable ultrasound devices are an example of point-of-care testing for _____.**
    a) Neurological disorders
    b) Imaging soft tissues
    c) Blood glucose monitoring
    d) Genetic screening
    Answer: b) Imaging soft tissues

26. **The main goal of TENS therapy is to provide _____ pain relief.**
    a) Permanent
    b) Temporary
    c) Surgical
    d) Invasive
    Answer: b) Temporary

27. **TENS is most commonly used for treating _____ pain conditions.**
    a) Acute
    b) Chronic
    c) Neuropathic
    d) All of the above
    Answer: d) All of the above

28. **In TENS, the frequency range for acute pain relief is typically _____ Hz.**
    a) 1-5
    b) 10-20
    c) 80-130
    d) 500-1000
    Answer: c) 80-130

29. **The effectiveness of TENS therapy depends on factors such as _____ and electrode placement.**
    a) Frequency
    b) Skin color
    c) Age
    d) Body weight
    Answer: a) Frequency

30. **High-frequency TENS is thought to work by stimulating the release of _____.**
    a) Adrenaline
    b) Cortisol
    c) Endorphins

d) Serotonin
Answer: c) Endorphins

31. **The duration of a TENS therapy session typically lasts between _____ minutes.**
    a) 1-5
    b) 10-60
    c) 100-120
    d) 180-240
    Answer: b) 10-60

32. **TENS should not be applied to areas with _____.**
    a) Muscle stiffness
    b) Open wounds
    c) Joint pain
    d) Swollen tissues
    Answer: b) Open wounds

33. **The main objective of biofeedback is to help patients gain control over _____.**
    a) Their breathing
    b) Their physiological responses
    c) Their movement coordination
    d) Their genetic makeup
    Answer: b) Their physiological responses

34. **Biofeedback can be useful for managing conditions such as _____.**
    a) Hypertension
    b) Anxiety
    c) Chronic pain
    d) All of the above
    Answer: d) All of the above

35. **A key component of biofeedback training involves monitoring and adjusting _____.**
    a) Genetic markers
    b) Physiological signals
    c) Body weight
    d) Muscle mass
    Answer: b) Physiological signals

36. **The physiological signals most commonly measured in biofeedback therapy include muscle activity, heart rate, and _____.**
    a) Hair growth
    b) Skin conductivity
    c) Bone density
    d) Body temperature
    Answer: b) Skin conductivity

37. **A common technique used in biofeedback to reduce stress and anxiety is _____ training.**
    a) Soundwave
    b) Neurofeedback
    c) Muscle relaxation
    d) Resistance
    Answer: c) Muscle relaxation

38. **In biofeedback, a person receives real-time information about their physiological state through _____.**
a) Electrical impulses
b) Visual or auditory cues
c) Chemical signals
d) Genetic testing
Answer: b) Visual or auditory cues

39. **One of the primary benefits of biofeedback is that it helps reduce dependence on _____.**
a) Physical therapy
b) Medications
c) Exercise
d) Diet plans
Answer: b) Medications

40. **Point-of-care (POC) testing allows for faster medical decisions because results are obtained in _____ time.**
a) Immediate
b) Delayed
c) 24-hour
d) 7-day
Answer: a) Immediate

41. **A common example of a POC testing device is a _____ monitor.**
a) Blood glucose
b) MRI
c) CT scan
d) X-ray
Answer: a) Blood glucose

42. **The primary advantage of point-of-care testing is its ability to provide diagnostic results with minimal _____.**
a) Equipment
b) Accuracy
c) Cost-effectiveness
d) Patient involvement
Answer: a) Equipment

43. **Portable ECG monitors help in detecting _____ disorders outside clinical settings.**
a) Respiratory
b) Neurological
c) Cardiac
d) Gastrointestinal
Answer: c) Cardiac

44. **The accuracy of point-of-care tests can be affected by _____ errors.**
a) Technical
b) Environmental
c) Operator
d) All of the above
Answer: d) All of the above

45. **Wearable biosensors used for real-time monitoring often measure parameters such as _____.**
   a) Blood oxygen levels
   b) Muscle size
   c) Weight gain
   d) Genetic changes
   Answer: a) Blood oxygen levels

46. **One of the key components of point-of-care lab-on-a-chip technology is _____.**
   a) Microfluidics
   b) Ultrasound waves
   c) X-ray beams
   d) Magnetic resonance
   Answer: a) Microfluidics

47. **Rapid antigen tests are often used for diagnosing _____.**
   a) Blood disorders
   b) COVID-19 and influenza
   c) Skin diseases
   d) Neurological conditions
   Answer: b) COVID-19 and influenza

48. **The most important requirement for a point-of-care testing device is that it must be _____.**
   a) Large and complex
   b) User-friendly and portable
   c) Expensive and hospital-based
   d) Heavy and automated
   Answer: b) User-friendly and portable

49. **Handheld ultrasound devices are increasingly used in _____ settings for quick imaging.**
   a) Remote and emergency
   b) Laboratory
   c) Cardiac surgery
   d) Genetic testing
   Answer: a) Remote and emergency

50. **A wearable electrocardiogram (ECG) monitor helps in detecting _____ abnormalities.**
   a) Liver
   b) Heart rhythm
   c) Skin
   d) Kidney
   Answer: b) Heart rhythm

51. **TENS therapy primarily works by stimulating _____ to block pain signals.**
   a) Nerves
   b) Muscles
   c) Blood vessels
   d) Bones
   Answer: a) Nerves

52. **The two main types of TENS stimulation are _____ and low-frequency.**
   a) High-frequency
   b) Medium-frequency
   c) Low-voltage

d) Variable-frequency
Answer: a) High-frequency

53. **The placement of TENS electrodes should be over or near the _____.**
   a) Heart
   b) Painful area
   c) Bone structure
   d) Large blood vessels
   Answer: b) Painful area

54. **TENS therapy should be avoided by individuals with _____ implants.**
   a) Cochlear
   b) Pacemaker
   c) Dental
   d) Knee replacement
   Answer: b) Pacemaker

55. **The sensation produced by TENS therapy is often described as a _____ feeling.**
   a) Sharp pain
   b) Tingling
   c) Burning
   d) Numbness
   Answer: b) Tingling

56. **TENS therapy can help reduce the use of _____ for pain management.**
   a) Antibiotics
   b) Painkillers
   c) Vitamins
   d) Anti-inflammatory creams
   Answer: b) Painkillers

57. **The effect of TENS therapy lasts for _____ after treatment stops.**
   a) Minutes to hours
   b) Several days
   c) Weeks
   d) Permanently
   Answer: a) Minutes to hours

58. **Biofeedback therapy is used to treat conditions related to _____ control.**
   a) Involuntary physiological functions
   b) Genetic disorders
   c) Physical trauma
   d) Viral infections
   Answer: a) Involuntary physiological functions

59. **One of the most commonly measured parameters in biofeedback is _____.**
   a) Blood type
   b) Skin temperature
   c) Hormone levels
   d) Bone density
   Answer: b) Skin temperature

60. **The technique used to measure muscle activity in biofeedback is called _____.**
    a) Electroencephalography (EEG)
    b) Electromyography (EMG)
    c) Electrocardiography (ECG)
    d) Spirometry
    Answer: b) Electromyography (EMG)

61. **Biofeedback therapy can be used to treat conditions like _____.**
    a) Hypertension
    b) Insomnia
    c) Chronic pain
    d) All of the above
    Answer: d) All of the above

62. **Neurofeedback is a specialized form of biofeedback that focuses on _____ activity.**
    a) Muscle
    b) Brain wave
    c) Heart rate
    d) Lung capacity
    Answer: b) Brain wave

63. **During a biofeedback session, a patient receives feedback in the form of _____.**
    a) Visual or auditory cues
    b) Medication prescriptions
    c) Physical therapy exercises
    d) Dietary recommendations
    Answer: a) Visual or auditory cues

64. **Biofeedback can be an effective non-drug treatment for _____.**
    a) Migraines
    b) High blood pressure
    c) Anxiety
    d) All of the above
    Answer: d) All of the above

65. **A commonly used biofeedback technique for stress management is _____.**
    a) Deep breathing
    b) High-intensity exercise
    c) Antibiotic therapy
    d) Radiation therapy
    Answer: a) Deep breathing

66. **Point-of-care (POC) testing is designed to provide rapid results at or near the _____.**
    a) Laboratory
    b) Patient's location
    c) Pharmacy
    d) Research center
    Answer: b) Patient's location

67. **A portable glucose meter is an example of a _____ diagnostic device.**
    a) Hospital-based
    b) Point-of-care
    c) Laboratory-dependent

d) High-tech
Answer: b) Point-of-care

68. **POC devices are widely used in emergency care because they provide results in _____.**
    a) Days
    b) Hours
    c) Minutes
    d) Weeks
    Answer: c) Minutes

69. **One major advantage of point-of-care testing is the reduction in _____ time.**
    a) Cost
    b) Diagnosis
    c) Treatment
    d) Both b & c
    Answer: d) Both b & c

70. **Wearable biosensors help in real-time monitoring of physiological parameters such as _____.**
    a) Blood pressure
    b) Oxygen saturation
    c) Heart rate
    d) All of the above
    Answer: d) All of the above

71. **A key component of lab-on-a-chip technology used in POC testing is _____.**
    a) X-ray imaging
    b) Microfluidics
    c) MRI scanning
    d) Radiation therapy
    Answer: b) Microfluidics

72. **Portable ECG monitors are mainly used for detecting _____ abnormalities.**
    a) Heart rhythm
    b) Blood sugar
    c) Kidney function
    d) Brain activity
    Answer: a) Heart rhythm

73. **Point-of-care testing in rural areas improves healthcare by providing _____.**
    a) Faster diagnosis
    b) Less accurate results
    c) Delayed treatment
    d) Limited patient monitoring
    Answer: a) Faster diagnosis

74. **Handheld ultrasound devices allow for quick imaging in _____ settings.**
    a) Remote and emergency
    b) Surgery
    c) Cancer treatment
    d) Dental clinics
    Answer: a) Remote and emergency

75. **A key requirement for POC devices is that they must be _____.**
    a) Large and complex
    b) Portable and easy to use
    c) Expensive and slow
    d) Heavy and automated
    Answer: b) Portable and easy to use