Certified Polysomnographic Technician (CPSGT) and Registered Polysomnographic Technologist (RPSGT) Practice Exam (Sample)

Study Guide

Everything you need from our exam experts!

Questions

1. What are common behavioral treatments for insomnia?

A. Cognitive Behavioral Therapy for Insomnia (CBT-I)

B. Medication with benzodiazepines

C. Exposure Therapy

D. Relaxation Techniques

2. In what type of study does a patient attempt to remain awake in a darkened room?

A. MST

B. MWT

C. PSG

D. SHS

3. Which of the following conditions is characterized by episodes of excessive sleepiness during the day?

A. Insomnia

B. Narcolepsy

C. Sleep apnea

D. Restless leg syndrome

4. Where should the leg EMG lead be placed?

A. On the thigh

B. On the buttocks

C. Anterior tibialis, on the outside of the chins

D. On the calf muscle

5. Which sleep stage is primarily associated with muscle atonia and vivid dreaming?

A. Stage 1 NREM

B. Stage 2 NREM

C. REM sleep

D. Stage 3 NREM

6. What is the clinical term for breath-holding followed by an expiratory groan?

A. Apnea

B. Catathrenia

C. Hypopnea

D. Snoring

7. What is the best explanation for how a differential amplifier functions?

A. It creates a single output from multiple inputs

B. It amplifies only the different voltages between two sources

C. It converts analog signals to digital

D. It eliminates noise from the signal

8. The EOG channel functions by picking up the charge from the?

A. Scalp

B. Cornea

C. Retina

D. Brain

9. Sweat artifact in a polysomnographic study typically appears as what?

A. Delta waves

B. Slow wave sleep

C. Rapid eye movement

D. Beta activity

10. What is the minimum amount of recording time a sleep study may last?

A. 4 hours

B. 6 hours

C. 8 hours

D. 10 hours

Answers

1. A
2. B
3. B
4. C
5. C
6. B
7. B
8. B
9. B
10. B

Explanations

1. What are common behavioral treatments for insomnia?

A. Cognitive Behavioral Therapy for Insomnia (CBT-I)

B. Medication with benzodiazepines

C. Exposure Therapy

D. Relaxation Techniques

Cognitive Behavioral Therapy for Insomnia (CBT-I) is widely recognized as one of the most effective behavioral treatments for insomnia. It involves a structured program that helps individuals identify and change thoughts and behaviors that contribute to sleep difficulties. CBT-I typically includes components such as sleep education, sleep hygiene, cognitive restructuring, and behavioral interventions that promote better sleep practices and address maladaptive thought patterns. While medications like benzodiazepines can be prescribed to manage insomnia symptoms, they do not address the underlying behavioral and cognitive factors contributing to insomnia, and prolonged use may lead to dependency. Exposure therapy, often used for anxiety disorders, is not specifically tailored for insomnia and focuses on gradual exposure to feared situations, which does not directly address sleep issues. Relaxation techniques can be beneficial as part of a broader treatment plan, but they are generally not as effective when used alone without the structured approach provided by CBT-I. Thus, CBT-I is emphasized for its comprehensive methodology and effectiveness in treating insomnia through behavioral modifications.

2. In what type of study does a patient attempt to remain awake in a darkened room?

A. MST

B. MWT

C. PSG

D. SHS

The correct answer is the Maintenance of Wakefulness Test (MWT). This study specifically measures a patient's ability to stay awake in a controlled environment, typically in a darkened room. During the MWT, patients are given a series of opportunities to fall asleep, and the goal is to evaluate their ability to resist sleep, which is particularly useful in assessing conditions like narcolepsy or other sleep disorders that affect wakefulness. The environment is designed to minimize distractions and promote sleep onset, thereby challenging the subject to maintain alertness despite the conducive conditions for sleep. The results from the MWT can help healthcare professionals understand the degree of daytime sleepiness a patient might experience. The other types of studies mentioned focus on different aspects of sleep and wakefulness. For example, the Multiple Sleep Latency Test (MST) evaluates how quickly a person falls asleep in a series of naps but does not measure the ability to remain awake. Polysomnography (PSG) provides comprehensive data on sleep patterns and disturbances during a regular sleep study rather than measuring wakefulness specifically. The Sleep Hygiene Survey (SHS) is an assessment tool related to sleep behaviors and habits rather than a direct observation of wakefulness or sleepiness.

3. Which of the following conditions is characterized by episodes of excessive sleepiness during the day?

A. Insomnia

B. Narcolepsy

C. Sleep apnea

D. Restless leg syndrome

The condition characterized by episodes of excessive sleepiness during the day is narcolepsy. Narcolepsy is a neurological disorder that affects the brain's ability to regulate sleep-wake cycles, leading to sudden and uncontrollable bouts of sleep during the day. Individuals with narcolepsy may experience cataplexy, sudden muscle weakness triggered by strong emotions, in addition to excessive daytime sleepiness. Other conditions listed, such as insomnia, involve difficulty in falling or staying asleep, which does not directly cause excessive daytime sleepiness but potentially results from sleep loss. Sleep apnea is characterized by interruptions in breathing during sleep, which can disrupt sleep quality, but the primary symptom is not the excessive sleepiness itself but rather the breathing disturbances. Restless leg syndrome primarily involves uncomfortable sensations that create an urge to move the legs, often disrupting sleep but not leading to the characteristic excessive daytime sleepiness seen in narcolepsy. Thus, narcolepsy is distinct in its definition by the occurrence of excessive daytime sleep episodes.

4. Where should the leg EMG lead be placed?

A. On the thigh

B. On the buttocks

C. Anterior tibialis, on the outside of the chins

D. On the calf muscle

The leg EMG lead should be placed on the anterior tibialis to effectively monitor muscle activity related to leg movements during a sleep study. The anterior tibialis muscle is located in the front of the lower leg and is responsible for controlling dorsiflexion of the foot, which is important for accurate assessment of leg movement disorders like periodic limb movements during sleep (PLMS). This specific placement allows for optimal detection of muscle activity, ensuring that the data collected provides a clear representation of any bradykinesia or movement-related issues that may arise during the various sleep stages. Proper placement of EMG leads is essential for obtaining reliable data, which aids in diagnosing potential sleep disorders accurately.

5. Which sleep stage is primarily associated with muscle atonia and vivid dreaming?

A. Stage 1 NREM

B. Stage 2 NREM

C. REM sleep

D. Stage 3 NREM

REM sleep is primarily associated with muscle atonia and vivid dreaming. During this sleep stage, the body experiences temporary paralysis of major muscle groups, which prevents individuals from acting out their dreams. This atonia is a protective mechanism that allows the brain to engage in vivid and often narrative-like dreaming without the risk of physical movement that could result in injury. REM sleep typically occurs multiple times throughout the night and is crucial for cognitive functions such as memory consolidation and emotional regulation. In contrast, the other stages of sleep have different characteristics and do not typically feature vivid dreaming or significant muscle atonia. For example, stages 1 and 2 of NREM sleep involve light sleep and do not generally include dreaming as vivid or intense as in REM. Stage 3, also part of NREM sleep, is the deepest sleep phase associated with physiological restoration and is not linked to muscle atonia or vivid dreams. Thus, the unique features of REM sleep clearly align with the aspects of muscle atonia and vivid dreaming highlighted in the question.

6. What is the clinical term for breath-holding followed by an expiratory groan?

A. Apnea

B. Catathrenia

C. Hypopnea

D. Snoring

The clinical term for breath-holding followed by an expiratory groan is catathrenia. This condition is characterized by the occurrence of prolonged expiratory groaning during sleep, which is typically associated with irregular breathing patterns. During episodes of catathrenia, an individual may hold their breath for a noticeable duration, followed by a pronounced groaning sound upon exhalation. This phenomenon usually occurs in the later stages of sleep and can often be mistaken for other sleep-related breathing disorders, but it is distinctive due to the specific sound produced. Understanding catathrenia is important for sleep specialists, as it differs from conditions like apnea, hypopnea, or snoring. Apnea refers to a complete cessation of breathing, while hypopnea indicates a reduction in airflow. Snoring, on the other hand, is characterized by vibrations of the throat tissue due to airway obstruction. Catathrenia's unique feature of a groaning sound differentiates it from these other respiratory events, making it important for proper diagnosis and treatment planning in polysomnographic studies.

7. What is the best explanation for how a differential amplifier functions?

A. It creates a single output from multiple inputs

B. It amplifies only the different voltages between two sources

C. It converts analog signals to digital

D. It eliminates noise from the signal

A differential amplifier is designed specifically to amplify the difference in voltage between two input signals while rejecting any noise or signals that are common to both inputs. This characteristic makes it particularly useful in applications where accurate signal measurement is required despite the presence of potentially disruptive interference. The essential function of a differential amplifier lies in its ability to take two input voltages and produce an output that is proportional only to the voltage difference between them. This is crucial for maintaining the integrity of the signal, particularly in the context of medical monitoring technologies where precise readings are necessary, such as in polysomnography. The other options describe functions that do not accurately capture the primary role of a differential amplifier. For instance, while eliminating noise is a beneficial side effect of using a differential amplifier, it is not its main function; rather, its design inherently provides noise rejection. Similarly, while a differential amplifier can be part of systems that process signals, it does not inherently convert analog signals to digital; that function is typically associated with other components like analog-to-digital converters. Lastly, the idea that it creates a single output from multiple inputs mischaracterizes the amplifier's purpose since its output specifically represents the difference between two inputs, rather than averaging or combining them into a single output.

8. The EOG channel functions by picking up the charge from the?

A. Scalp

B. Cornea

C. Retina

D. Brain

The EOG (Electrooculogram) channel is designed to detect the electrical potential generated by eye movements. Specifically, it captures the charge difference between the cornea and the retina of the eye. The cornea, which is more positively charged compared to the retina, creates a measurable potential when the eye moves in different directions. This potential difference provides data that helps to identify various stages of sleep and eye movement activity. Understanding this mechanism is crucial in a polysomnographic study, as eye movements are closely associated with different sleep stages, including REM sleep. The other options do not adequately address the specific source of the electrical signals measured by the EOG; for example, the scalp relates to EEG readings, and the brain itself does not produce the specific charge detected by the EOG. Therefore, recognizing the role of the cornea in generating the charge helps understand the function of the EOG channel in sleep studies.

9. Sweat artifact in a polysomnographic study typically appears as what?

A. Delta waves

B. Slow wave sleep

C. Rapid eye movement

D. Beta activity

In the context of polysomnography, sweat artifacts occur when the sweat from the skin interferes with the electrical signals being recorded. This typically shows up as irregular, high-frequency activity on the EEG, often resembling beta activity, rather than showing true delta waves, which are characteristic of deep sleep stages. Slow wave sleep, however, is associated with the presence of delta waves; therefore, it is a misconception to think that sweat artifacts correspond directly to this stage of sleep. Instead, these artifacts can obscure or falsely elevate readings in other stages, particularly during the lighter stages of sleep, where beta activity is more commonly noted. Therefore, the representation of sweat artifacts does not align with slow wave sleep; rather, it typically manifests as more erratic, faster rhythms, often misidentified with beta activity or other fluctuations that suggest an influence from external factors like sweat. Overall, the correct interpretation of sweat artifacts is essential for accurate assessment during polysomnography, as these artifacts can lead to misinterpretation of the patient's sleep stages, affecting the overall evaluation of the polysomnographic study.

10. What is the minimum amount of recording time a sleep study may last?

A. 4 hours

B. 6 hours

C. 8 hours

D. 10 hours

In polysomnography, the minimum amount of recording time for a sleep study is generally recognized as 6 hours. This duration is essential to provide an adequate assessment of sleep patterns and potential disorders. A shorter recording time may not capture enough sleep cycles or stages, which are critical for accurately diagnosing conditions such as sleep apnea, periodic limb movement disorder, or other sleep-related issues. Furthermore, a study of 6 hours typically allows for the completion of at least two full sleep cycles, which include the necessary stages of NREM and REM sleep that are vital for comprehensive clinical evaluation. While shorter durations may be sufficient for certain preliminary assessments or special situations, 6 hours has become the accepted standard for full clinical studies in typical adult populations to ensure the reliability and validity of the results.