Fetal Health Surveillance Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

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Questions



- 1. When NST is normal but risk factors are identified, what is the recommended follow-up?
 - A. Continue with daily fetal movement counts
 - B. Repeat the NST in a week
 - C. Schedule an ultrasound for BPP or amniotic fluid assessment
 - D. Immediately proceed to delivery
- 2. Which condition can lead to fetal cardiac conduction issues?
 - A. Congenital heart block
 - **B.** Oligohydramnios
 - C. Gestational diabetes
 - D. Preterm labor
- 3. With a decrease in fetal blood pressure, what is the physiological response initiated?
 - A. Sympathetic stimulation
 - B. Increased vagal tone
 - C. Release of acetylcholine
 - D. Inhibition of cardiac output
- 4. What qualifies as a score of 2 for the tone parameter in a biophysical profile?
 - A. An episode of passive flexion of the arm
 - B. An episode of active extension with return to flexion
 - C. A lack of limb movement
 - D. Uniform muscle tone measurement
- 5. Moderate variability in fetal heart rate is defined as:
 - A. 0 to 5 bpm
 - B. 6 to 25 bpm
 - C. 25 to 30 bpm
 - D. >30 bpm

- 6. Which statement describes the base excess/deficit in respiratory acidosis?
 - A. Always increased
 - **B.** Always decreased
 - C. Normal
 - D. Variable
- 7. How is contraction frequency generally measured?
 - A. Every 5 minutes
 - **B.** Every 15 minutes
 - C. Every 10 minutes
 - D. Every hour
- 8. How much blood does a fetal scalp lactate test sample require?
 - A. As little as 1 µL
 - B. As little as 3 µL
 - C. As little as 5 µL
 - D. As little as 10 µL
- 9. What parameters does a biophysical profile (BPP) measure?
 - A. Fetal weight and length
 - B. Fetal breathing movement, body movement, tone, and amniotic fluid volume
 - C. Breech position and fetal heart tones
 - D. Placental location and fetal activity
- 10. What defines tachycardia in a fetal heart rate?
 - A. 180 BPM for more than 5 minutes
 - B. 160 BPM for more than 10 minutes
 - C. 150 BPM for more than 10 minutes
 - D. 170 BPM for more than 15 minutes

Answers



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



Explanations



1. When NST is normal but risk factors are identified, what is the recommended follow-up?

- A. Continue with daily fetal movement counts
- B. Repeat the NST in a week
- C. Schedule an ultrasound for BPP or amniotic fluid assessment
- D. Immediately proceed to delivery

In cases where the Non-Stress Test (NST) is normal but there are identified risk factors, scheduling an ultrasound for a Biophysical Profile (BPP) or an amniotic fluid assessment is the recommended follow-up. This approach provides a more comprehensive evaluation of fetal well-being beyond the immediate heart rate patterns observed in the NST. The BPP includes assessments of fetal heart rate, movement, muscle tone, and breathing, along with an evaluation of the amniotic fluid volume. These components can help in identifying potential risks that may not be apparent from the NST alone, especially if risk factors are present. The BPP offers a broader context regarding the fetus's condition and can guide clinical decisions more effectively. Continuing with daily fetal movement counts, while beneficial for monitoring, does not provide the same level of detailed information about fetal health as an ultrasound would. Repeating the NST in a week could miss critical changes in fetal status that require earlier intervention. Immediately proceeding to delivery would be an extreme measure if the NST is normal; careful monitoring and assessment through ultrasound is a more balanced and evidence-based approach in this scenario.

2. Which condition can lead to fetal cardiac conduction issues?

- A. Congenital heart block
- **B.** Oligohydramnios
- C. Gestational diabetes
- D. Preterm labor

Congenital heart block is a specific condition that directly affects the fetal cardiac conduction system. It is often associated with autoimmune conditions in the mother, particularly those that produce anti-Ro/SSA and anti-La/SSB antibodies. These antibodies can cross the placenta and impact the fetus, leading to disruptions in the normal electrical conduction pathways of the heart. In congenital heart block, the electrical signals that coordinate the heartbeat can be affected, resulting in bradycardia (slow heart rate) or even complete heart block. This condition is not typical for the other options provided, as oligohydramnios, gestational diabetes, and preterm labor do not primarily target the cardiac conduction pathways in the same way. While they can have significant implications for fetal health, they are not directly linked to causing conduction issues within the heart itself like congenital heart block.

3. With a decrease in fetal blood pressure, what is the physiological response initiated?

- A. Sympathetic stimulation
- B. Increased vagal tone
- C. Release of acetylcholine
- D. Inhibition of cardiac output

When there is a decrease in fetal blood pressure, the body responds by activating the sympathetic nervous system. This activation leads to sympathetic stimulation, which serves to temporarily raise blood pressure and maintain adequate blood flow to vital organs. The sympathetic nervous system releases hormones such as epinephrine and norepinephrine, which increase heart rate and contractility of the heart, along with causing vasoconstriction in non-essential areas, all of which work together to boost blood pressure. This physiological response is crucial in a variety of scenarios where blood pressure drops, as it helps to stabilize the condition and ensure that the developing fetus continues to receive sufficient oxygen and nutrients. The body prioritizes responses that restore blood pressure to ensure overall fetal health and survival. The other options would not be the primary response to a decrease in blood pressure. For instance, increased vagal tone typically lowers heart rate and may not directly counteract low blood pressure. Similarly, the release of acetylcholine is generally associated with parasympathetic responses, which would not be appropriate in this scenario. Lastly, inhibition of cardiac output would only exacerbate a low blood pressure situation, which isn't a supportive response. Thus, sympathetic stimulation stands out as the correct and appropriate physiological response.

- 4. What qualifies as a score of 2 for the tone parameter in a biophysical profile?
 - A. An episode of passive flexion of the arm
 - B. An episode of active extension with return to flexion
 - C. A lack of limb movement
 - D. Uniform muscle tone measurement

In the context of a biophysical profile, a score of 2 for the tone parameter indicates a normal finding related to fetal muscle tone and movement. Specifically, an episode of active extension followed by a return to flexion demonstrates healthy neuromuscular function and a well-developed central nervous system in the fetus. This active movement pattern is a sign that the fetus is engaging in normal motor activities, which is critical for assessing fetal well-being. Active extension and subsequent return to flexion is an essential aspect of fetal health because it reflects the ability of the fetus to move and respond to stimuli, indicative of adequate oxygenation and neurologic function. This score provides reassurance regarding the fetus's condition, as it suggests that the fetus is not only alive but also showing signs of functional muscle tone and nervous system activity.

5. Moderate variability in fetal heart rate is defined as:

- A. 0 to 5 bpm
- B. 6 to 25 bpm
- C. 25 to 30 bpm
- D. > 30 bpm

Moderate variability in fetal heart rate is characterized by fluctuations in the heart rate that range from 6 to 25 beats per minute (bpm). This range indicates that the fetal autonomic nervous system is functioning well and reflects a healthy fetus. Moderate variability suggests that the fetus is experiencing adequate oxygenation and is not under stress, which is essential for monitoring fetal well-being during pregnancy. Recognizing this metric is crucial in fetal health surveillance as it can greatly influence clinical decision-making and the management of labor and delivery. By understanding this concept, healthcare professionals can effectively assess fetal health and intervene if necessary. The definition of moderate variability stands in contrast to other ranges, which indicate either minimal or significant deviations from the norm, often suggesting different clinical implications regarding fetal health and potential need for further assessment or intervention.

6. Which statement describes the base excess/deficit in respiratory acidosis?

- A. Always increased
- **B.** Always decreased
- C. Normal
- D. Variable

In the context of respiratory acidosis, it is important to understand how base excess or deficit is affected by the respiratory system's capability to eliminate carbon dioxide (CO2). Respiratory acidosis occurs when there is an accumulation of CO2 in the blood, often due to conditions that impair ventilation. During this process, the body may engage compensatory mechanisms, primarily through metabolic alterations. The kidneys may retain bicarbonate (HCO3-) in response to the increased CO2 levels, thereby improving the buffering capacity of the blood. However, this does not always result in a significant change in base excess or deficit. Base excess or deficit represents the metabolic component of acid-base balance and can indeed remain normal in respiratory acidosis if effective compensation is at play. Therefore, saying that it is "normal" reflects that while the primary issue is respiratory and leads to increased acidity due to CO2 retention, the metabolic response of the kidneys can maintain a stable base status, thus resulting in no significant elevation or decrease in the base excess or deficit during acute states of respiratory acidosis.

7. How is contraction frequency generally measured?

- A. Every 5 minutes
- **B.** Every 15 minutes
- C. Every 10 minutes
- D. Every hour

Contraction frequency is typically assessed by tracking how often contractions occur within a specific timeframe. The standard measurement involves counting the number of contractions in a 10-minute interval. This method allows healthcare providers to effectively monitor uterine activity during labor or pre-labor conditions, providing critical information about the progression of labor and the well-being of the fetus. By observing contractions every 10 minutes, practitioners can gauge whether contractions are becoming more frequent, which is essential for identifying stages of labor or potential complications. This timeframe balances the need for accurate monitoring while allowing enough data collection to identify patterns or changes in contraction strength and duration. Other timeframes like every 5 minutes, every 15 minutes, or every hour may not provide as precise an assessment of contraction patterns as the 10-minute interval, potentially omitting important information regarding the labor's progression or fetal health status.

8. How much blood does a fetal scalp lactate test sample require?

- A. As little as 1 µL
- B. As little as 3 uL
- C. As little as 5 µL
- D. As little as 10 µL

A fetal scalp lactate test is a procedure used to assess fetal well-being, particularly in situations where there are concerns about fetal distress during labor. The test measures the lactate level in the fetal blood, which can provide crucial information about the baby's oxygenation status. The correct amount of blood required for this test is as little as 5 μL . This small volume is sufficient for accurate testing and aligns with the typical standards in clinical practice. Collecting such a minimal amount reduces the risk of trauma to the fetus and limits the potential for complications during the procedure. Ensuring that only the necessary volume is obtained is crucial for both the safety of the mother and the fetus, as well as for obtaining reliable results. While smaller volumes, such as 1 μL or 3 μL , may sound advantageous, they are generally not sufficient to provide the accurate assessments needed for this type of testing. Ten μL may seem more than adequate, but it is not necessary given that 5 μL suffices for effective testing.

- 9. What parameters does a biophysical profile (BPP) measure?
 - A. Fetal weight and length
 - B. Fetal breathing movement, body movement, tone, and amniotic fluid volume
 - C. Breech position and fetal heart tones
 - D. Placental location and fetal activity

A biophysical profile (BPP) is a comprehensive assessment used to evaluate fetal health by measuring specific physiological parameters. The correct answer encompasses four critical components: fetal breathing movement, body movement, fetal tone, and amniotic fluid volume. Fetal breathing movement reflects the ability of the fetus to perform respiratory-like movements, which is an indicator of neurological function and well-being. Body movement assesses the overall activity level of the fetus, another important marker of health. Fetal tone refers to the degree of muscular tension and activity, which provides insight into the fetal nervous system function. Lastly, amniotic fluid volume is essential as it indicates the well-being of the fetus; adequate amniotic fluid is crucial for normal development and indicates that the fetus is adequately hydrated and not in distress. Collectively, these parameters help healthcare providers assess the risk of fetal hypoxia or other complications during pregnancy, making them crucial components in prenatal monitoring.

10. What defines tachycardia in a fetal heart rate?

- A. 180 BPM for more than 5 minutes
- B. 160 BPM for more than 10 minutes
- C. 150 BPM for more than 10 minutes
- D. 170 BPM for more than 15 minutes

Tachycardia in a fetal heart rate is identified as a sustained heart rate greater than 160 beats per minute (BPM). The criterion for defining tachycardia is a fetal heart rate exceeding this threshold for a duration of 10 minutes or more. This standard aligns with clinical guidelines for assessing fetal wellbeing during monitoring. In this context, a heart rate of 160 BPM sustained for more than 10 minutes indicates a concern that must be evaluated further, as it may suggest underlying issues such as fetal distress or maternal factors affecting the fetus. Recognizing this allows healthcare providers to respond appropriately, whether through further monitoring or interventions. The other options either propose a higher threshold (like 170 BPM or 180 BPM) or shorter durations not consistent with the established definition of tachycardia, leading to a misunderstanding of what constitutes an elevated fetal heart rate in clinical practice. Thus, the correct identification of fetal tachycardia is critical for ensuring proper fetal health assessments and interventions.