

Electronic Fetal Monitoring Review Questions #6

The Johns Hopkins Hospital

1. Fetal assessment during the second stage of labor for women with no medical or obstetrical complication and is receiving oxytocin for augmentation of labor is:
 - a. Every 5 minutes
 - b. Every 15 minutes
 - c. Every 30 minutes
2. The difference between early and late decelerations
 - a. Time to reach the nadir of the deceleration
 - b. Timing in relation to contractions
 - c. Length of time below the baseline FHR
3. Betamimetic drugs
 - a. Increase maternal and fetal heart rate
 - b. Decrease fetal heart rate
 - c. Decrease maternal heart rate
4. What percent of maternal cardiac output is distributed to the uterus?
 - a. 5%
 - b. 10%
 - c. 25%
5. During a contraction blood flow to the placenta is:
 - a. Decreased
 - b. Increased
 - c. Unchanged
6. What percent of uterine blood flow goes to the placenta?
 - a. 30%
 - b. 50%
 - c. 85%
7. Fetal assessment should be performed every _____ for a woman 38 weeks gestation diagnosed with intrauterine growth restriction and whose cervical exam is 8 cm/100/0:
 - a. 5 minutes
 - b. 15 minutes
 - c. 30 minutes
8. Rapid descent of the fetal head in the second stage of labor is likely to cause:
 - a. Early decelerations
 - b. Late decelerations
 - c. Variable decelerations
9. Baroreceptors are sensitive to changes:
 - a. FHR variability
 - b. Blood pressure
 - c. Oxygen saturation
10. Fetal hemoglobin saturation in well-oxygenated fetus
 - a. 30 – 70%
 - b. 80 – 90%
 - c. 95 – 100%

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11. The Doppler ultrasound device detects fetal heart rate:
 - a. Movement of fetal heart valves
 - b. Electrical impulses
 - c. Ultrasound waves

12. Rapid fetal descent during labor is more likely to produce _____ decelerations
 - a. Prolonged
 - b. Early
 - c. Late

13. In the event of hypoxia, the fetal circulatory response provides for:
 - a. An increase in cardiac output
 - b. Maintenance of cerebral blood flow
 - c. Redistribution of blood to vital organs

14. A prolonged FHR deceleration lasts:
 - a. ≥ 2 minutes and < 10 minutes
 - b. ≥ 15 seconds and < 10 minutes
 - c. ≥ 10 minutes

15. Uterine contraction frequency in excess of normal is defined as:
 - a. Hypercontractility
 - b. Hypertonus
 - c. Tachysystole

16. The maximum amount of time necessary to complete the ultrasound portion of the BPP is:
 - a. 10 minutes
 - b. 20 minutes
 - c. 30 minutes

17. The plasma half-life of oxytocin is:
 - a. 3 – 5 minutes
 - b. 5 – 8 minutes
 - c. 10 – 12 minutes

18. Uterine response to oxytocin
 - a. 3 – 5 minutes
 - b. 5 – 8 minutes
 - c. 10 – 12 minutes

19. Low amplitude high frequency (LAHF) contractions in a woman with pre-eclampsia is highly suggestive of:
 - a. Uterine rupture
 - b. Abruptio placenta
 - c. Preterm labor

20. Fetal bradycardia in a women with a previous C-section and undergoing TOLAC is highly suggestive of:
 - a. Rapid descent
 - b. Abruptio placenta
 - c. Uterine rupture

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21. Supine positioning following an epidural placement or for an IUPC placement leads to reduction of maternal cardiac output thus decreasing uterine circulation and placental perfusion. Which deceleration might you see on the monitor?
 - a. Early
 - b. Variable
 - c. Late

22. What FHR characteristic indicates the presence or absence of fetal oxygen reserves?
 - a. Depth of the deceleration pattern
 - b. Duration of the deceleration pattern
 - c. Presence of variability

23. Tactile communication between twins in utero during labor can be reflected as:
 - a. Accelerations
 - b. Tachycardia
 - c. Variable decelerations

24. The underlying cause of early deceleration is:
 - a. Central vagal stimulation
 - b. Baroreceptor response suppression
 - c. Increased peripheral resistance

25. The physiologic basis of the late deceleration patterns is:
 - a. A decrease in the amount of oxygen perfused to the fetus through the placenta
 - b. Stimulation of the chemoreceptors and increased sympathetic activity
 - c. Umbilical cord compression with compromised blood flow into the fetal circulation

26. Ms. B is 39 weeks gestation and in active labor. Following an epidural, the fetal heart rate tracing indicates a prolonged deceleration. After changing her position, the deceleration continues. What is the next best action?
 - a. Administer oxygen
 - b. Check her blood pressure
 - c. Perform scalp stimulation

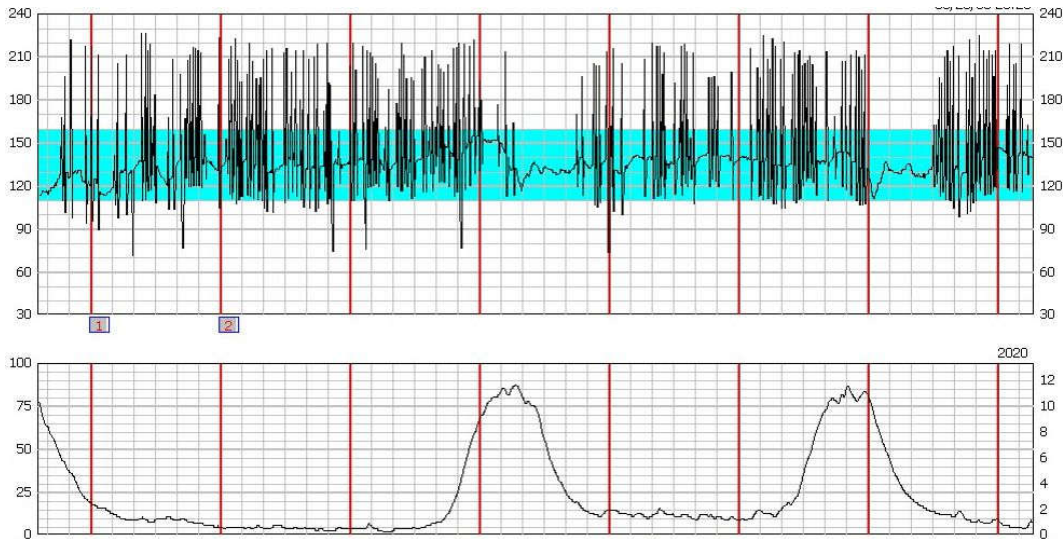
27. Fetal supraventricular tachycardia (SVT) if untreated can lead to:
 - a. Anemia
 - b. Hydrops
 - c. Cardiac heart defect

28. A gravida 1 para 0 woman presents to L&D at 37 weeks gestation with intrauterine growth restriction (IUGR) and decreased fetal movement and oligohydramnios. A BPP was performed and the score was 4/10. What action is appropriate given the patient's condition?
 - a. Admit to L&D for delivery
 - b. Repeat the biophysical profile in 24 hours
 - c. Perform a vibro-acoustic stimulation test

29. What is the **initial action** to implement for the FHR pattern that indicates a prolonged deceleration?
 - a. Administer oxygen
 - b. Perform amnioinfusion
 - c. Perform vaginal exam

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30. In the fetal tracing above indicates:

- Artifact
- Premature ventricular contractions (PVCs)
- Dropped beats

31. Most common serious fetal arrhythmia

- Supraventricular tachycardia (SVT)
- Bradycardia
- Premature ventricular contraction

32. Second stage pushing technique with closed glottis (Valsalva maneuver) - take a deep breath and hold it for a count of 10 at the beginning of each contraction is associated with:

- Increased maternal cardiac output
- Decreased placenta blood flow
- Decreased fatigue

33. What is the **initial action** to implement for the FHR pattern that indicates recurrent variable decelerations with minimal variability?

- Supplemental oxygen
- IV fluid bolus of glucose (500 mL D5W)
- Modify pushing efforts during second stage labor (e.g. every other or every third contraction)

34. What is the **initial action** to implement for the FHR pattern that indicates late decelerations with uterine tachysystole?

- Maternal position change
- Supplemental oxygen
- Discontinue oxytocin infusion

35. What action is the **initial action** for tachysystole and a Category I fetal heart tracing for a woman receiving oxytocin for induction of labor?

- Intravenous fluid bolus
- Decrease oxytocin rate
- Administer terbutaline

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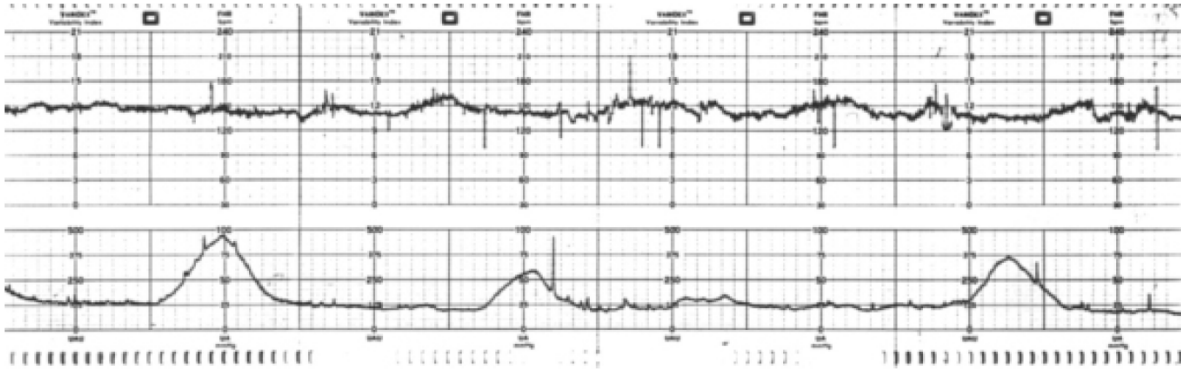
36. What percent of the time do decelerations minimally have to occur with contractions in a 20 minute period in order to be defined as recurrent?
- 25%
 - 50%
 - 75%
37. Variability with fluctuations of > 25 beats per minute above the baseline FHR is defined as:
- Marked
 - Saltatory
 - Moderate
38. Which of the following statement describes FHR variability?
- Variability includes FHR rounded to increments of 5 beats/minute.
 - There is clear differentiation between short-term variability and long-term variability
 - Fluctuations in the FHR baseline that are irregular in amplitude and frequency.
39. An indication for fetal scalp electrode to monitor FHR include:
- Obese patient unable to trace externally
 - Persistent Category II fetal heart tracing
 - HIV positive infection prolonged deceleration

Ms. B is 36 weeks pregnant with preeclampsia without severe features. The physician orders an NST. The FHR tracing remains unchanged after 40 minutes and a VAS does not produce any accelerations. A biophysical profile was performed and the results are below.

- Nonstress test is nonreactive
 - Three episodes of limb movements in 15 minutes
 - Two episodes of the fetal hand opening and closing
 - Two episodes of fetal breathing lasting 40 seconds
 - A maximum vertical amniotic fluid pocket (MVP) of 3 cm
40. The BPP score for Ms. B is:
- 6 out of 10 points
 - 8 out of 10 points
 - Unable to be calculated because the NST is nonreactive
41. Fetal scalp stimulation is used to:
- Rule out fetal hypoxia and metabolic acidosis
 - Stimulate the fetus during bradycardic episode
 - Determine fetal behavioral state

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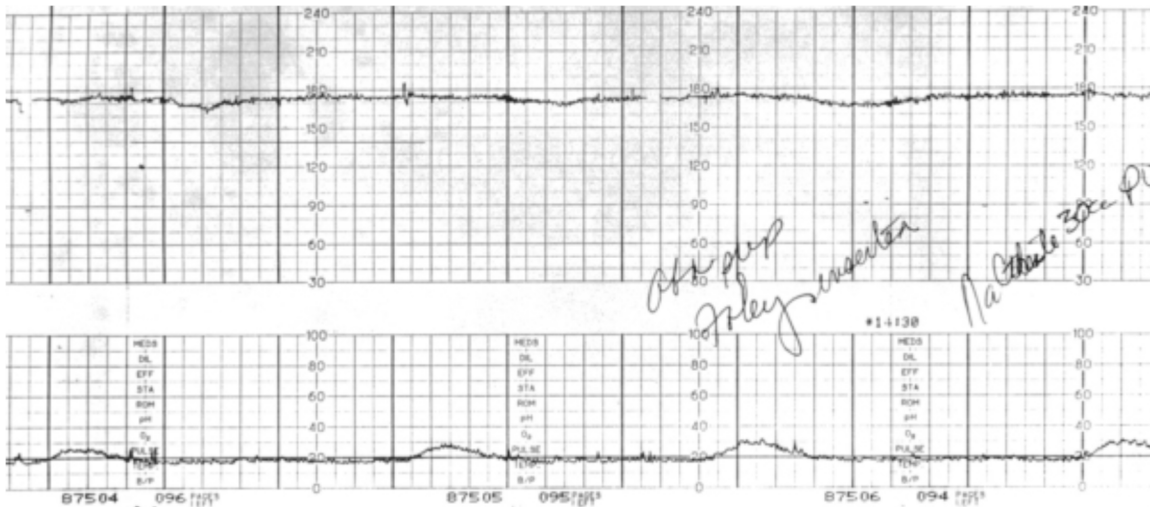
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This fetal heart tracing represents a contraction stress test.

42. Contraction stress test is interpreted as:

- a. Positive
- b. Negative
- c. Equivocal

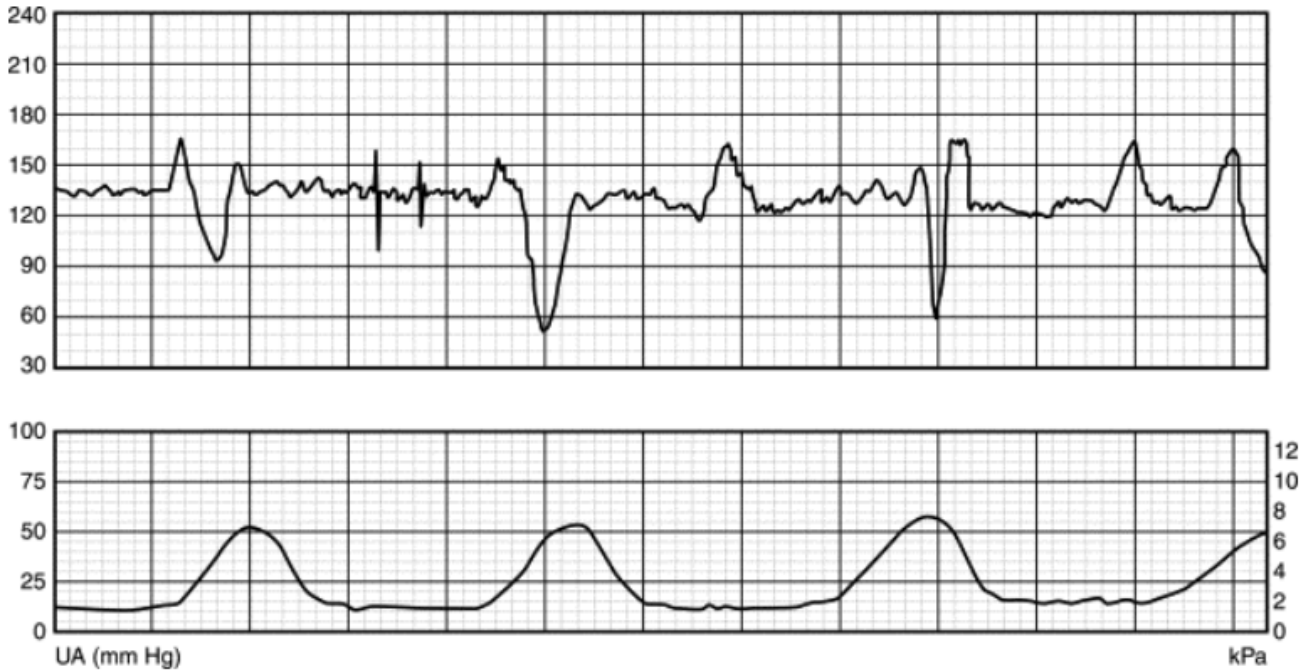


43. Contraction stress test is interpreted as:

- a. Positive
- b. Negative
- c. Equivocal

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Ms. J., is term and in labor and feels rectal pressure. The provider performs a vaginal examination and finds that she is 10 cm dilated, 100% effaced, and + 1 station. Questions 44, 45, 46 pertain to the above tracing.

44. The tracing category in tracing B is
- Category I
 - Category II
 - Category III
45. The fetal heart tracing (via Toco transducer and Doppler ultrasound) shows:
- A baseline FHR of 135 with moderate variability and recurrent variable decelerations
 - An indeterminate baseline FHR and need for more tracing
 - A baseline FHR of 130 bpm with minimal variability and recurrent late decelerations
46. Which intrauterine resuscitation interventions are indicated based on the overall interpretation of fetal heart rate tracing above?
- Maternal position change and administration of IV fluids
 - Maternal position change and supplemental oxygen
 - Maternal position change and amnioinfusion if decelerations unresolved

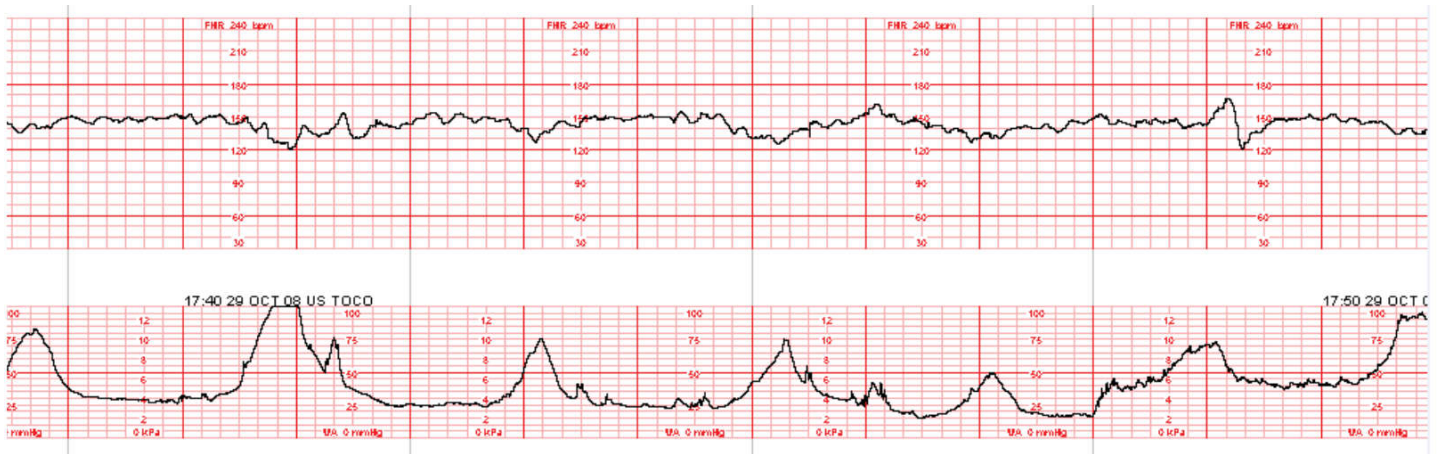
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Ms. C., a 24-year-old gravida 1, para 0, arrives at a local hospital's labor and delivery triage area. She is 38 4/7 weeks gestation. She states her bag of water broke 2 hours prior to presenting to labor and delivery. She noted clear fluid at that time and states that she has been having mild regular contractions.

A sterile speculum exam confirms this information. A vaginal examination is performed, and her cervix is 4 cm/ 80% / 0 station, and vertex presentation.

Initial vital signs are: blood pressure, 114/76; pulse, 82; respiration, 18; and temperature, 36.6° C (97.8° F). She is escorted to a labor room where the electronic fetal monitor (EFM) is applied. The EFM mode is Doppler ultrasound and Toco transducer. An IV solution of LR solution is started, and the rate is adjusted to 100 mL/hr. **Questions 47, 48, 49, and 50 pertain to the tracing below.**



47. The periodic pattern in the above FHR tracing is
 - a. early decelerations
 - b. variable decelerations
 - c. late decelerations
48. The physiology associated with the FHR tracing pattern above is
 - a. Shunting of blood
 - b. baroreceptor reflex
 - c. vagal response
49. The variability in above FHR tracing:
 - a. demonstrates metabolic acidosis because of the absence of accelerations
 - b. reliably predicts the absence of metabolic acidemia at time it was observed
 - c. represents a preexisting neurological insult to the fetus
50. The fetal heart rate tracing is
 - a. Category I
 - b. Category II
 - c. Category III

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Answer Key

1. A
2. B
3. A
4. B
5. A
6. C
7. B
8. C
9. B
10. A
11. A
12. A
13. C
14. A
15. C
16. C
17. C
18. A
19. B
20. C
21. C
22. C
23. A
24. A
25. A
26. B
27. B
28. A
29. C
30. B
31. A
32. B
33. C
34. C
35. B
36. B
37. A
38. C
39. B
40. B
41. A
42. B
43. A
44. B
45. A
46. C
47. A
48. C
49. B
50. A