

Answer Sheet to the EFM Challenge

EFM #1

- Contractions: Contracting every 2 ½ minutes, lasting 60 seconds.
- Baseline: 140 BPM with moderate variability
- Decels/Accels: Multiple accelerations exceeding 15x15, and no decelerations.
- Category: I

EFM #2

- Contractions: Contracting every 4 minutes, lasting 60 seconds
- Baseline: 150 BPM with moderate variability
- Decels/Accels: One acceleration exceeding 15x15, and no decelerations.
- Category: Category I

EFM #3

- Contractions: Every 1 ½ minutes (6 contractions in 10 minutes = **tachysystole**), lasting about 60 seconds.
- Baseline: 150 BPM, with moderate variability
- Decels/Accels: No accelerations and no decelerations.
- Category: I
 - Note: Tachysystole is a contraction pattern abnormality, not a fetal heart abnormality

EFM #4

- Contractions: Contracting every 2 to 2 ½ minutes, lasting 60 seconds
- Baseline: 140 BPM with Moderate Variability
- Decels/Accels: There are no Accelerations. There are repetitive early decelerations occurring with each contraction, with a depth of 30 beats, and a duration of about 60 seconds.
- Category: I
 - Note: Early decelerations begin with the onset of the contraction, and resolve with the resolution of the contraction. They are not considered to be abnormal enough to move the tracing out of Category I.

FHR Category I = Normal

FHR Category II = Indeterminate (Neither Category I nor Category III)

FHR Category III = Abnormal = Absent variability AND:

- Recurrent late decelerations, or
- Recurrent variable decelerations, or
- Bradycardia

FHR Category III is also used to categorize sinusoidal patterns.

Answer Sheet to the EFM Challenge

EFM #5

- Contractions: There are 6 contractions in 10 minutes, with some **coupling**. Individually, the contractions last 45 to 60 seconds.
- Baseline: The baseline is 130 BPM with moderate variability.
- Decels/Accels: There is one acceleration exceeding 15x15 BPM. There are no decelerations.
- Category: I
 - Note: The slight slowing of the baseline following the acceleration is less than a 15 BPM change, so it cannot count as a prolonged deceleration.

EFM #6

- Contractions: Contractions are every 1 ½ to 3 minutes, lasting 60 seconds.
- Baseline: Baseline FHR is 150 BPM with moderate variability
- Decels/Accels: There are no accelerations. There are recurrent late decelerations, starting at the peak of each contraction, and lasting 90-120 seconds before returning to the baseline. They have a depth of 30 Beats.
- Category: II
 - Note: In order to have a Category III tracing, you must have absent variability. So even with recurrent late decelerations, that is not enough for this tracing to be labeled as a Category III.

EFM #7

- Contractions: Every 2 to 2 ½ minutes, lasting about 60 seconds.
- Baseline: 150 BPM with absent variability.
- Decels/Accels: There are no accelerations and no decelerations.
- Category: II
 - Note: Absent variability is a pre-requisite for a tracing to be a Category III. But absent variability, by itself, is not enough to push the tracing into a Category III. There must be another significant fetal heart abnormality, such as recurrent late decelerations, recurrent variable decelerations, or fetal bradycardia. The only exception to this rule is if a sinusoidal pattern is present, in which case, the tracing is a Category III regardless of beat to beat variability.

FHR Category I = Normal

FHR Category II = Indeterminate (Neither Category I nor Category III)

FHR Category III = Abnormal = Absent variability AND:

- Recurrent late decelerations, or
- Recurrent variable decelerations, or
- Bradycardia

FHR Category III is also used to categorize sinusoidal patterns.

Answer Sheet to the EFM Challenge

EFM #8

- Contractions: Every 4 to 5 minutes, lasting about a minute.
- Baseline: 120 BPM, with moderate variability
- Decels/Accels: There are multiple fetal cardiac accelerations exceeding 15 x 15. There are two variable decelerations, each lasting 20 to 30 seconds in duration, with a nadir of 35 to 40 beats below the baseline.
- Category: II

EFM #9

- Contractions: Every 2 ½ to 3 ½ minutes, lasting about a minute.
- Baseline: 150 BPM with minimal variability
- Decels/Accels: There are no accelerations. There are recurring late decelerations with each contraction. The onset of the decelerations are at or just before the peak of the contraction, and last about 90 seconds.
- Category: II
 - Note: Although this tracing has minimal variability (detectable, but 5 BPM or fewer), to become a Category III tracing, the variability must be **Absent**. This doesn't mean that I'm at all happy with this tracing, and clinically I would aggressively try to resolve the FHR abnormalities. But it does not strictly meet the criteria for Category III.

EFM #10

- Contractions: Every 3 minutes, lasting about a minute.
- Baseline: between 120 and 150, with a sinusoidal pattern.
- Decels/Accels: No decelerations, no accelerations.
- Category: III
 - Note: a Sinusoidal pattern (cycle frequency of 3-5 per minute, lasting at least 20 minutes) is sufficient, by itself, to place the tracing into Category III. It doesn't matter, for the purpose of categorization, whether there is any significant baseline variability, accelerations, decelerations or rate.

FHR Category I = Normal

FHR Category II = Indeterminate (Neither Category I nor Category III)

FHR Category III = Abnormal = Absent variability AND:

- Recurrent late decelerations, or
- Recurrent variable decelerations, or
- Bradycardia

FHR Category III is also used to categorize sinusoidal patterns.

Answer Sheet to the EFM Challenge

EFM #11

- Contractions: About every 3-4 minutes, lasting about a minute.
- Baseline: Initially 180, falling over the course of the strip to 150, and then to 50 BPM at the end of the tracing, in either a bradycardia, or prolonged deceleration. There is absent variability
- Decels/Accels: There are no accelerations. There are late decelerations occurring with each of the first three contractions, lasting 1 ½ to 2 ½ minutes in duration, with a depth of 25 beats. With the fourth contraction, there is a prolonged deceleration, gradual in onset, which (if it persists) would be bradycardia at 55 BPM.
- Category: III
 - Note: This is a very bad tracing that could prove to be pre-terminal for this fetus. Unfortunately, you can't see what lead up to this pattern. Perhaps the patient arrived in L&D from home and this is the first 10 minutes of tracing you have to review. Or perhaps there were many hours of tracing leading up to this, in which abnormalities were present, but were not successfully treated.

EFM #12

- Contractions: Every 2 to 2 ½ minutes, lasting about a minute.
- Baseline: 180 BPM with moderate variability
- Decels/Accels: No accelerations. Variable decelerations are seen with most, but not all of the contractions.
- Category: II

EFM #13

- Contractions: Every 5 minutes, lasting about a minute
- Baseline: 135 BPM, initially with absent variability, and then with minimal variability
- Decels/Accels: There are no accelerations and no decelerations.
- Category: II
 - Note: This is not a Category I, because it does not have moderate variability of its baseline. It is not a Category III, because even though there is initially absent variability, there are no accompanying FHR abnormalities (such as late decels, variable decels, or bradycardia). So this must be a Category II.

FHR Category I = Normal

FHR Category II = Indeterminate (Neither Category I nor Category III)

FHR Category III = Abnormal = Absent variability AND:

- Recurrent late decelerations, or
- Recurrent variable decelerations, or
- Bradycardia

FHR Category III is also used to categorize sinusoidal patterns.