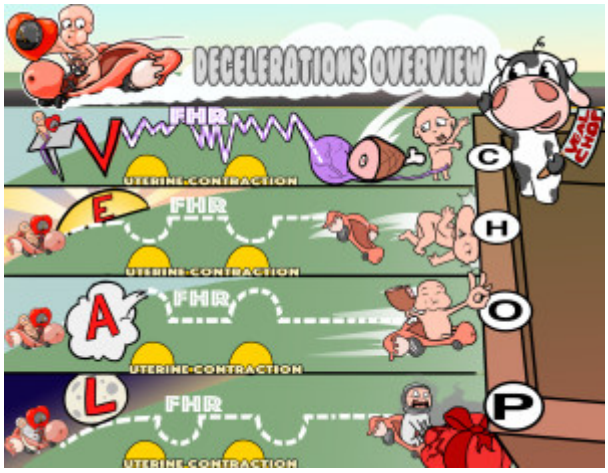
Decelerations (and Accelerations) Overview

Understanding the standardized definitions of the variations in fetal heart rate patterns are essential for the quick assessment of fetal well being. These variations are termed accelerations or decelerations as the heart rate changes from the baseline fetal heart rate. The variations typically identified based on their correlation to the uterine contractions are further classified as periodic, while those that occur independent of uterine contractions are termed episodic.



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VEAL CHOP

Veal Chops

VEAL CHOP is an acronym to remember fetal heart rate pattern changes in which the order of the letters in VEAL correlate to accelerations or decelerations and the letters in CHOP help you remember the cause of each FHR change. V for variable goes to C for cord compression. E for early, goes with H for head compression. A for acceleration is to O for okay, while L for late goes to P for placental insufficiency.

Variable Deceleration

Varied Deceleration of fetus heart

A variable deceleration is characterized by an abrupt decrease in FHR below the baseline with the onset to lowest point (nadir) less than 30 seconds. They can occur any time during the contraction cycle and last at least 15 seconds. They happen in approximately half of all labors and are usually transient and correctable. They have a characteristic U, V, or W shape on the fetal monitor and are noted by their rapid descent and ascent from the lowest point (nadir) of the deceleration.

Cord Compression

Cord Compressed

Variable decelerations can occur at any time during uterine contractions and are caused by compression of the umbilical cord often because of an abnormal cord position. The umbilical cord can get wrapped around the fetal neck, chest, arm, or leg. When the cord is between the fetus and maternal pelvis, it can lead to compression.

Early Deceleration

Early-sun with Decelerating fetus heart

An early deceleration is identified as a gradual decrease (onset to lowest point is ≥ 30 seconds) in fetal heart rate with return to the baseline associated with a contraction. These are most commonly associated with compression of the fetal head and is often considered a normal finding with no intervention required other than continued monitoring.

Head Compression

Head Compressed

Head compression, especially during uterine contractions, is the most common cause of an early deceleration that occurs during labor as the fetal head advances in the birth canal. This compression can be correlated to uterine contractions, vaginal examinations, applying pressure to the fundus, and the placement of internal monitoring instruments.

Acceleration

Accelerating fetus heart

Increases of the fetal heart rate of at least 15 beats per minute above baseline that start and peak within 30 seconds, but not less than 15 seconds are termed accelerations. These should subside within 2 minutes. Accelerations are common and are associated typically with any direct or indirect fetal movement. Accelerations are used as an indicator of fetal well being.

Okay

Okay-hand

Accelerations are often used as a measure of fetal well being and normal acid base balance.

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Late Deceleration

Late-moon with Decelerating fetus heart

A late deceleration is a gradual decrease of the FHR during the contraction with the lowest point (nadir) occurring after the peak of the contraction. It does not return to the FHR baseline until after the contraction is over. They correspond with placental insufficiency.

Placental Insufficiency

Broken Placenta

When there is insufficient oxygenation between the placenta and fetus, uteroplacental insufficiency occurs and causes late decelerations. This can occur due to conditions such as uterine tachysystole, which happens when there are more than 5 contractions in 10 minutes. Frequent contractions do not allow sufficient recovery and adequate oxygen exchange in the placenta. Other conditions are maternal supine hypotension, placental previa, hypertensive disorders, diabetes mellitus, intraamniotic infection, intrauterine growth restriction, epidural or spinal anesthesia, and postmaturity.

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