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The intrapartum deceleration in center stage: a physiologic approach to the interpretation of fetal heart rate changes in labor.

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One of the most distinctive features of fetal heart rate recordings in labor is the deceleration. In clinical practice, there has been much confusion about the types of decelerations and their significance. In the present review, we examined uteroplacental perfusion in labor, describe the pathophysiologic condition of decelerations, and explain some of the reasons behind the confusion about the terminology. We summarize recent studies that systematically have dissected the features of variable decelerations that may help to identify developing fetal compromise, such as the slope of the deceleration, overshoot, and variability changes.

Although no pattern of repeated deep decelerations is necessarily benign, fetuses with normal placental reserve can compensate fully, even for frequent deep but brief decelerations, for surprisingly prolonged intervals before the development of profound acidosis and hypotension. This tolerance reflects the remarkable ability of the fetus to adapt to repeated hypoxia. We propose that, rather than focus on descriptive labels, clinicians should be trained to understand the physiologic mechanisms of fetal heart rate decelerations and the patterns of fetal heart rate change that indicate progressive loss of fetal compensation.