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Antepartum fetal surveillance techniques are routinely used to assess the risk of fetal death in pregnancies complicated by preexisting maternal conditions (eg, diabetes mellitus) as well as those in which complications have developed (eg, fetal growth restriction). The purpose of this document is to provide a review of the current indications for and techniques of antepartum fetal surveillance and outline management guidelines for antepartum fetal surveillance that are consistent with the best scientific evidence. Copyright © 2021 by the American College of Obstetricians and Gynecologists. Published by Wolters Kluwer Health, Inc. All rights reserved. All ACOG committee members and authors have submitted a conflict of interest disclosure statement related to this published product. Any potential conflicts have been considered and managed in accordance with ACOG's Conflict of Interest Disclosure Policy. The ACOG policies can be found on [acog.org](https://www.acog.org). For products jointly developed with other organizations, conflict of interest disclosures by representatives of the other organizations are addressed by those organizations. The American College of Obstetricians and Gynecologists has neither solicited nor accepted any commercial involvement in the development of the content of this published product. Antepartum Fetal Surveillance: ACOG Practice Bulletin Summary, Number 229. [No authors listed] [No authors listed] Obstet Gynecol. 2021 Jun 1;137(6):1134-1136. doi: 10.1097/AOG.0000000000004411. Obstet Gynecol. 2021. PMID: 34011881 Umbilical artery velocimetry as a predictor of adverse outcome in pregnancies complicated by oligohydramnios. Lombardi SJ, Rosemond R, Ball R, Entman SS, Boehm FH, Lombardi SJ, et al. Obstet Gynecol. 1989 Sep;74(3 Pt 1):338-41. Obstet Gynecol. 1989. PMID: 2668816 [The biophysical profile of the fetus. Indications for antepartum fetal monitoring]. Künzel W, Hohmann M, Künzel W, et al. 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Full text of ACOG Practice Bulletins is available to ACOG members at Fetal SurveillanceThe goal of antepartum fetal surveillance is to prevent fetal death. Antepartum fetal surveillance techniques based on assessment of fetal heart rate (FHR) patterns have been in clinical use for almost four decades and are used along with real-time ultrasonography and umbilical artery Doppler velocimetry to evaluate fetal well-being. Antepartum fetal surveillance techniques are routinely used to assess the risk of fetal death in pregnancies complicated by preexisting maternal conditions (eg, diabetes mellitus) as well as those in which complications have developed (eg, fetal growth restriction). The purpose of this document is to provide a review of the current indications for and techniques of antepartum fetal surveillance and outline management guidelines for antepartum fetal surveillance that are consistent with the best scientific evidence. Used with permission. Copyright the American College of Obstetricians and Gynecologists.Commentary: Balancing cost and benefit in antepartum fetal surveillance By Haywood L. Brown, MD Dr. Brown is F. Bayard Carter Professor and Chair, Division of Maternal Fetal Medicine, Department of Obstetrics and Gynecology, Duke University School of Medicine, Durham, North Carolina. For nearly 4 decades, fetal heart monitoring (FHR) has been used to assess antenatal and intrapartum fetal well-being. While both antenatal and intrapartum monitoring have come under criticism, antepartum fetal rate surveillance to assess the risk of fetal death and stillbirth is less controversial for the purpose for which it was introduced in the 1970s. This Practice Bulletin provides a review of the indications and techniques for antepartum fetal surveillance with FHR being the consistent parameter used in the assessment of fetal well-being. Abnormal fetal surveillance is based on physiologic changes that alter fetal heart rate and fetal activity. Fetal heart rate, fetal movement, and tone in particular are impacted by uteroplacental fetal blood flow alterations and are thereby sensitive to fetal hypoxemia and acidemia. While nonreassuring fetal surveillance is associated with fetal hypoxemia and acidemia based on these physiologic adjustments, these indicators can neither predict the degree or duration of the fetal acid base disturbance nor precisely predict neonatal outcome. Antepartum surveillance techniques A warning sign that a fetus may be at risk of compromise is maternal perception of decrease in fetal movement. If "kick counting" is used by the patient, a nonreassuring count provides the alert for further assessment. Many approaches to counting kicks have been used over the past decades, but the perception of 10 distinct movements in a period of up to 2 continuous or interrupted hours is considered reassuring. A nonreassuring count should prompt notification for further fetal assessment. The non-stress test (NST) and the ultrasound biophysical profile (BPP) are the primary antenatal fetal surveillance methods now used. The NST is based on the principle that the fetal heart will accelerate with movement in a fetus with normal autonomic function. Accelerations of 15 beats per minute above baseline and for 15 seconds from the baseline in a 20- to 40-minute period are considered reactive and are a measure that has stood the test of time as a predictor of fetal well-being at that point in time. A normal BPP score along with a reactive NST is an indication of fetal well-being. The BPP provides 2 points each for fetal breathing, movement, and fetal tone in 30 minutes and 2 points for normal amniotic fluid volume. There has been debate regarding the ultrasound definition of oligohydramnios and whether a single deepest vertical pocket of fluid of ≥ 2 cm, as recommended in the Practice Bulletin, is more acceptable as a predictor than an amniotic fluid index (AFI) of indications for antenatal surveillance and management Antenatal testing is used for pregnancies considered at risk of antepartum stillbirth, such as those complicated by pre-gestational diabetes, poorly controlled gestational diabetes, maternal vascular disease (chronic hypertension), and FGR. (See Box 1 of the Practice Bulletin.)2 Initiation of testing at 32 0/7 weeks is appropriate for most women at risk with the exception of patients with FGR recognized prior to 32 weeks' gestation. The challenge for the clinician is acting on an abnormal (false-positive) test result, which has the potential for iatrogenic premature delivery with resultant complications of prematurity. In one large single-center review, 60% of fetuses with an abnormal antepartum test result had no evidence of short-term or long-term fetal compromise.1 While statistically these are "false positives," the clinician has to take into consideration the clinical indications for testing in the first place and the goal of the test in preventing stillbirth. Management depends on gestational age, maternal condition, and which antenatal testing or combination thereof is abnormal. Abnormal results of an NST (nonreactive) should be followed by a BPP, modified BPP, or a CST. A BPP of 6 is considered equivocal and prompts consideration for delivery, especially beyond 37 0/7 weeks, or repeat testing in 24 hours if

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