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ST analysis of fetal electrocardiography in labor.

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Since its introduction more than 40 years ago, electronic fetal monitoring has become widely used for intrapartum surveillance to determine fetal wellbeing in labor. Although fetal hypoxia and acidosis are reflected in changes in fetal heart rate, there is no evidence that cardiotocography has been effective in reducing neonatal morbidity related to fetal distress occurring during labor. Indeed the specificity of this tool is poor and in many instances the incorporation of electronic fetal monitoring into intrapartum care has merely led to an increase in medical intervention rather than an improvement in neonatal outcome. Fetal electrocardiography (ECG) analysis provides an additional method for assessing the response of the fetus to hypoxia and in particular to the development of metabolic acidosis. ST changes in the fetal ECG can be quantified with computational analysis, reducing subjective interpretation that has been problematic with traditional electronic fetal monitoring. Formal algorithms indicating appropriate points for intervention in labor have been designed. The fetal ECG has been shown to be a useful adjunct to traditional electronic fetal monitoring in several randomized controlled trials with evidence of reduced rates of neonatal encephalopathy and reduced rates of obstetric intervention.