

# The impact of a universal late third-trimester scan for fetal growth restriction on perinatal outcomes in term singleton births: a prospective cohort study

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## Abstract

**Objective** To investigate perinatal mortality, morbidity and obstetric intervention after introducing universal third-trimester ultrasound scan for growth restriction. **Design** Prospective cohort study **Setting** Oxfordshire (OUH), UK Population Women with a non-anomalous singleton pregnancy undergoing pregnancy care and term delivery at OUH with an estimated-date-of-birth between 01/Jan/2014 and 30/Sept/2019. **Methods** Universal ultrasound for fetal growth restriction between 35+0 and 36+6 weeks was introduced in 2016. The outcomes of the next 18631 eligible term pregnancies were compared, using logistic regression, with the previous 18636 who had clinically-indicated ultrasounds only. ‘Screen positives’ for growth restriction were managed according to a pre-determined protocol. **Main Outcome Measures** Extended perinatal mortality, a composite of mortality or encephalopathy Grade II-III, and expedited birth. Other outcomes included composite adverse outcomes used elsewhere, detection of birthweight (<10th centile) and birth <39+0 weeks. **Results** Extended perinatal deaths decreased from 1.7/1000 to 1.2/1000 births (aOR: 0.73; 0.43 -1.25); mortality or severe morbidity decreased from 2.9/1000 to 1.9/1000 births (OR: 0.67; 0.44-1.03). Expedited births increased from 35.2% to 37.7% (OR: 1.08; 1.04 – 1.14). Birth prior to 39+0 weeks fell 10.5% (OR 0.89: 0.85 – 0.94). Birthweight (<10th centile) detection using fetal biometry alone was 31.4%, and rose to 40.5% if all abnormal scan parameters were used. **Conclusion** Introducing a universal ultrasound for growth restriction has limited impact on mortality and severe morbidity, but only small increases in intervention, and less early-term birth, are possible. The detection of birthweight (<10th c) improved where markers of growth restriction are used.

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