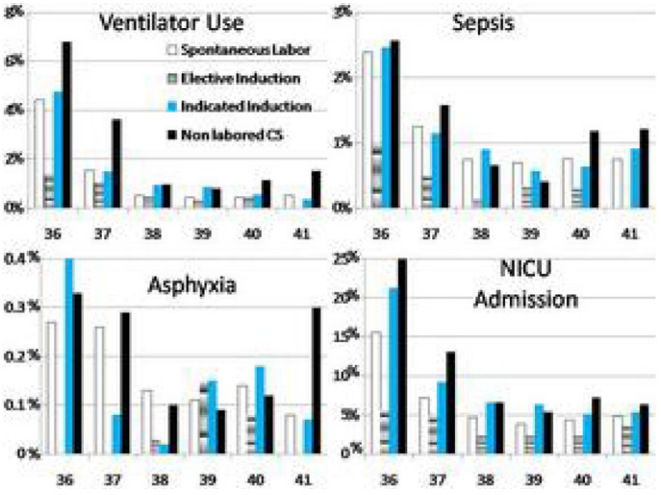
chronic hypertension,diabetes, premature rupture of membranes, and GBS+) most gestational ages showed no statistical differences between spontaneous labor and elective induction in neonatal ventilator use.




**CONCLUSION:** Our data support not performing elective inductions prior to 39 weeks as neonatal outcomes were optimal at 39-40 weeks.

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## 30 Folate blood concentrations and risk of preterm birth

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**OBJECTIVE:** Preconceptional folate supplementation is associated with reduced risk of preterm birth. However, it is uncertain if intake of other micronutrients affects this association. We sought to determine if risk of prior preterm birth is related to folate and other micronutrients blood concentrations in reproductive age women.

**STUDY DESIGN:** We studied 3507 reproductive age women with prior live-birth enrolled in the National Health and Nutrition Examination Survey between 1999 and 2006. Their serum and red blood cell (RBC) concentrations of folate were measured, and in a subset of them were also measured other micronutrients (vitamins A, B-12, D, E, iron and ferritin). History of prior preterm birth was self-reported. The association between prior preterm birth and concentrations of micronutrients was modeled using multivariable regression and adjusted for age at examination. The effects of race/ethnicity, BMI, education, marital status and smoking-cotinine concentrations on the risk of preterm birth were tested for effect modification by folate concentrations.

**RESULTS:** Women with prior preterm birth had significantly lower RBC concentrations of folate than women with prior term birth (age adjusted difference, −8.5%; 95% CI, −14.3% to −2.7%). Folate RBC concentration was inversely proportional to the number of prior preterm births (age adjusted decrease per each preterm birth, (−6.4%; 95% CI, −10.5% to −2.2%). There was no significant association of other micronutrients with prior preterm birth risk. Folate RBC concentrations mediated effect of black race but not other risk factors of preterm birth (proportion of the effect mediated, (20.5%; 95% CI, 5.3% to 85.0%).

**CONCLUSION:** Folate concentrations in reproductive age women are inversely related to their risk of preterm birth. The association is specific to folate and may explain part of the racial disparity in the risk of preterm birth. These findings support preconceptional folate supplementation for prevention of preterm birth.

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## 31 Frequent epidural dosing is a marker for impeding uterine rupture in patients attempting vaginal birth after cesarean (VBAC)

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**OBJECTIVE:** To estimate the association between epidural dosing and risk of uterine rupture in women attempting VBAC.

**STUDY DESIGN:** A nested case-control study within a multicenter retrospective cohort of >25,000 women with a prior cesarean was performed, comparing cases of uterine rupture to women without rupture (controls) while attempting VBAC. Extensive data extraction included all medications in 15-minute increments. In women who attempted VBAC with an epidural anesthetic, dose timing, frequency, and quantity were compared between cases and controls. Time-to-event analyses were performed to estimate the association between epidural dosing and risk for uterine rupture while accounting for duration of labor and confounding effects.

**RESULTS:** Of 804 women in the nested case-control study; 504 (62.7%) had an epidural, with no statistical difference in epidural usage rates between cases and controls (70.4% v. 62.4%, p=0.09). Women who experienced uterine rupture were > 4 times more likely to require epidural dosing in the 60 minutes prior to delivery (aOR 4.1, 2.4 – 6.7, p <0.01). Cox-regression analysis revealed a dose-response relationship between number of doses in the final 90 minutes of labor and risk of rupture, after adjusting for prior vaginal delivery, and oxytocin exposure.

| Number of Doses | n | Hazard ratio | 95% CI | p |
|---|---|---|---|---|
| 0 | 370 | ref | - | - |
| 1 | 34 | 2.8 | 1.4 – 5.7 | <0.01 |
| 2 | 53 | 3.1 | 2.2 – 6.2 | <0.01 |
| 3 | 21 | 6.7 | 3.8 – 12.1 | <0.01 |
| 4 or more | 26 | 8.1 | 5.4 – 18.2 | <0.01 |

**CONCLUSION:** Clinical suspicion for uterine rupture should be high in w omen requiring frequent epidural dosing during a VBAC trial.

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## 32 The effect of supine recumbency on fetal aortic and umbilical blood flow and heart rate patterns

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**OBJECTIVE:** In this study we investigated the hemodynamic and cardiovascular response of the human fetus to maternal supine recumbency in low risk pregnancies.

**STUDY DESIGN:** One hundred sixty one low-risk pregnant women participated in the study. Gestational age ranged from 36 weeks to term. Thirty minutes recordings of FHR, uterine contractions and fetal movements were obtained from each woman both in supine and left lateral decubitus positions, so that each woman served as her own control. All recordings were sampled into a computer and subsequently analyzed by a set of computer programs. In 38 women Doppler flow measurements were also obtained from the descending aorta and the intra-hepatic portion of the umbilical vein in supine and left lateral decubitus positions. Results are expressed as the mean ±SEM.

**RESULTS:** The volume flow rate in the descending aorta was 239.9±38/6 ml/min/kg in the supine position compared to 257.3±44.ml/min/kg in the left lateral position. The respecrive values in the umbilical vein were 112.6±5.7 and 117.8±6.3 ml/min/kg. The mean number of FHR accelerations decreased from 10.3±0.46 bpm in the lateral position to 7.7±0.42 in the supine position (p<0.0001). The bandwidth heart rate variability decreased from 9.1±0.41 bpm in