

Death within one year of life			
Week Gest	Infants with Nec n (%)	Infants without Nec n (%)	P value
24	56 (35.9)	1186 (37.9)	0.6
25	57 (28.1)	870 (23.4)	0.1
26	40 (21.9)	667 (15.4)	0.02
27	36 (17.2)	515 (10.1)	0.001
28	37 (15.2)	422 (6.9)	<0.001
29	41 (16.3)	374 (4.8)	<0.001
30	33 (14.7)	411 (3.8)	<0.001
31	22 (10.5)	352 (2.4)	<0.001
32	13 (7.3)	358 (1.7)	<0.001
33	13 (7.9)	444 (1.3)	<0.001
34	10 (6.4)	532 (0.9)	<0.001
35	8 (6.6)	641 (0.7)	<0.001
36	17 (17.9)	787 (0.5)	<0.001

### 333 First and second trimester gestational weight gain and the risk of recurrent spontaneous preterm birth

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**OBJECTIVE:** To assess the association between first and second trimester gestational weight gain (GWG) and the risk of recurrent spontaneous preterm birth (sPTB).

**STUDY DESIGN:** We performed a retrospective cohort study of all live spontaneous preterm (24 weeks). Subjects were excluded for missing weight gain data in the subsequent pregnancy, multifetal gestation, pre-gestational diabetes or gastrointestinal disease. Clinical variables were abstracted from direct review of medical records from both pregnancies. Weight gain at 24-28 weeks in the subsequent pregnancy was evaluated in order to avoid the bias of greater total weight gains in subjects who went to term. Logistic regression, adjusting for pre-pregnancy BMI and the clinical variables which were significant in univariate analysis, was used to assess the association of mid-trimester gestational weight gain with recurrent preterm birth.

**RESULTS:** Of 166 included subjects, 48 (28.9%) had a recurrent sPTB. Subjects with recurrent sPTB were younger and had an earlier gestational age of index sPTB compared to those with a subsequent term delivery. GWG at 24-28 weeks was not associated with recurrence of sPTB (aOR 0.99, 95% CI 0.95-1.03). This remained non-significant when GWG was assessed as a binary variable dichotomized at the mean or quartile or when stratified by obesity. A post-hoc power analysis demonstrated sufficient power for a weight gain difference between groups of 5 pounds or more. Gestational age in the index pregnancy was the only variable significantly associated with recurrence of sPTB (aOR 1.29, 95% CI 1.11-1.49) in multivariate regression.

**CONCLUSION:** In women with a prior sPTB, there is no association between first and second trimester weight gain and the risk of recurrence.

### 334 Do women with a history of LEEP and active vaginal infections during pregnancy have an increased risk for preterm birth?

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**OBJECTIVE:** Both loop electrode excision procedures (LEEP) and vaginal infections have been associated with an increased risk for preterm birth. Changes in the physiologic mucosal barrier of the cervix after a LEEP may alter the susceptibility to ascending infection and inflammation during pregnancy. This study is designed to estimate whether a history LEEP and a vaginal infection during pregnancy together amplify the risk for preterm birth.

**STUDY DESIGN:** A retrospective cohort study of women who underwent Pap screening and did or did not undergo LEEP was identified from a surgical pathology database. Medical and obstetric history was obtained by phone interview and review of medical records. Women who underwent LEEP (n=616) were compared to those who did not (n=1839). The index pregnancy was defined as the first pregnancy after LEEP which progressed beyond 20 weeks of gestation. Baseline maternal characteristics were compared using chi-square and student t-tests as appropriate. Univariable analysis was used to estimate the risk of preterm birth at < 37 and <32 weeks in study groups. Vaginal infections including bacterial vaginosis (BV), Chlamydia trachomatis (CT), Neisseria gonorrhoea (NG), and trichomonas were assessed. The association between LEEP and preterm birth was analyzed stratified by the presence or absence of each infection. Logistic regression was then used to model the effect modification of various infections on the association between LEEP and preterm birth, adjusting for confounding variables.

**RESULTS:** Women who underwent LEEP were significantly older and more likely to smoke but less likely to be black than those who did not have LEEP. There was no significant increase in preterm birth at <37 or <32 weeks in women who underwent LEEP compared to controls and there was no significant interaction between LEEP and vaginal infections for risk of preterm birth at <37 weeks (table).

**CONCLUSION:** In women who have a history of LEEP, vaginal infection during pregnancy does not amplify risk for preterm delivery. Further, LEEP does not independently increase the risk for prematurity.

Risk Factor	AOR* (95%CI) (n=324)	p value
LEEP alone (no infection)	1.2 (0.8-1.7)	0.38
LEEP + BV	2.2 (0.8-5.7)	0.11
LEEP + CT	1.3 (0.3-6.4)	0.36
LEEP + GC	0.1 (0.1-1.8)	0.13
LEEP + trichomonas	1.0 (0.4-2.6)	0.94

### 335 The degree of fetal bowel dilation as a predictor of postnatal surgery: risk stratification by the degree of dilation

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**OBJECTIVE:** Prenatal ultrasound diagnosis of fetal bowel dilation is associated with a number of gastrointestinal diagnoses and suggests the presence of bowel obstruction, but is non-specific. Our objective is to evaluate ultrasound diagnosis of the degree of fetal bowel dilation and its correlation with postnatal outcome and need for surgery.

**STUDY DESIGN:** This is a retrospective chart review of fetuses with a prenatal diagnosis of bowel dilation. Patients that were followed antenatally, delivered, and managed postnatally at our institution from January 2004 until December 2010 were included in the study. Maximal bowel diameters were compared using gestational age normograms at the 50th and 90th percentiles, and the degree of dilation was calculated. The degree of bowel was determined by the percentage increase over the 90th percentile. Data collected also included gestational age at delivery, mode of delivery, postnatal surgery, surgical diagnosis, and neonatal length of stay. The cases were grouped into 2 categories: surgical (excluding abdominal wall defects), and medical.

**RESULTS:** During this time period, 38 infants with a prenatal diagnosis of bowel dilation were identified: 13 surgical, and 25 non-surgical