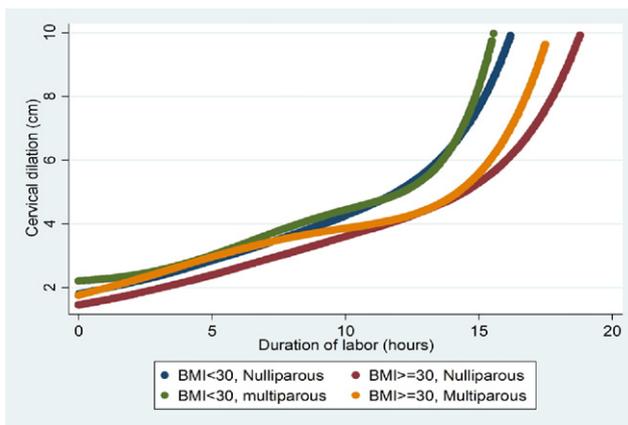


Cervical Dilatation	BMI ≥ 30 (n=2791)	BMI < 30 (2413)	P value*
<b>Duration</b>			
From 4 to 10cm	4.6 (1.3,16.0)	4.0 (1.1,14.0)	<0.001
<b>Progression</b>			
From 4 to 6 cm	2.4 (0.5,10.7)	1.9 (0.4,8.4)	<0.001
From 6 to 8 cm	0.5 (0.1, 4.2)	0.6 (0.1, 5.1)	0.42
From 8 to 10 cm	0.3 (0.03,2.4)	0.4 (0.04,3.1)	0.43

\*Adjusted for prior C-section, parity, labor type, Race, birth weight>4000g  
Data are median (5<sup>th</sup>, 95<sup>th</sup> percentile)



**315 Recurrent anal sphincter injury: a population based study**

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**OBJECTIVE:** This study was performed to determine the effect of a primary anal sphincter injury in the first vaginal delivery as a risk factor for recurrent anal sphincter injury in subsequent vaginal deliveries.

**STUDY DESIGN:** This is a population-based cohort study that used data from the California Office of Statewide Health Planning and Development. The study population (Lac First) was defined as women having their first singleton vaginal delivery between 1991 and 1995 complicated by an anal sphincter injury, with a second vaginal delivery between 1991 and 2004. These women were compared to a control group of women without anal sphincter injury (Nolac First) during the same time period. The primary outcome of interest was occurrence of an anal sphincter injury in the second vaginal delivery. Maternal demographics, obstetric and labor data, and fetal data were collected for the second delivery. Odds ratios for recurrent anal sphincter injury were calculated using multivariate logistic regression and were reported with 95% confidence interval.

**RESULTS:** A total of 375,278 women were identified with their first vaginal delivery between 1991-1995 and a second vaginal delivery before 2005. The Lac First group consisted of 43,583 (11.6%) women with an anal sphincter injury. During their second delivery, 2,648 (6.1%) had a recurrent anal sphincter injury. In contrast, in the Nolac First group, only 1.4% (4,697 of 331,695 women) were found to have anal sphincter injury at the time of their second delivery. The adjusted odds ratio for recurrent injury was 3.79 (95% CI 3.60-3.98). Variables significantly associated with recurrent anal sphincter injury at the time of second delivery were found to be increasing maternal age >40

(OR 1.34, 95% CI 1.14-1.58), fetal macrosomia >5000g (OR 9.92, 95% CI 7.44-13.22), operative deliveries with forceps (OR 4.69, 95% CI 3.77-5.82) and vacuum (OR 1.96, 95% CI 1.74-2.22).

**CONCLUSION:** Women with anal sphincter injury at their first delivery are at almost a four fold risk for recurrent anal sphincter injury at the time of second delivery.

**316 Estimating the impact of pelvic immaturity & young maternal age on fetal malposition**

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**OBJECTIVE:** Fetal malposition, specifically occiput posterior and transverse (OP/OT), is associated with higher intra-partum morbidity. We tested the hypothesis that young maternal age & pelvic immaturity are risk factors for fetal malposition.

**STUDY DESIGN:** In a cohort study of all nulliparous teen (≤18 years old) deliveries over a 4-year period at one institution, fetal head position at time of delivery was collected and correlated with maternal characteristics and outcome data. Using Risser staging observations, pelvic maturity age was set at 16 and accordingly the women were divided into two groups (younger vs. older teens). Group comparisons and analysis was performed using Fishers exact, Student's t-test, and logistic regression modeling.

**RESULTS:** Older teen mothers (16-18 years old, n=609) had higher rates of malposition (22% vs. 12%, p=0.02) when compared with younger teens (≤15 years old, n=98). Among all women with a malpositioned fetus, older teens had a higher body mass index (BMI: 32.6 vs. 28.5, p=0.04) and subsequent need for Cesarean delivery (69% vs. 33%, p=0.02) when compared with their younger counterparts (Figure 1). Although younger teens were more successful in having a vaginal delivery (67%) with an OP/OT position, it was at the expense of a 25% rate of severe perineal laceration (3rd/4th degree).

**CONCLUSION:** Obesity, and not young maternal age or pelvic immaturity appears to be associated with fetal malposition. The direct association with increasing pre-pregnancy BMI and the long-term impacts of the high rates of Cesarean delivery in this young population underscores the need for more public health attention.

