

to determine the effect of mechanical strain on collagen production by cervical stromal cell.

**STUDY DESIGN:** Primary cervical stromal cells were cultured from non-pregnant rats and used between passages 2-6. Cells were plated on collagen coated Bioflex Culture plates (Flexcell International Corp, USA) at 100k cells/well overnight. Cells were grown in DMEM media containing penicillin, streptomycin, amphotericin, and 10% charcoal stripped fetal bovine serum. Cells were exposed to varying degrees of biaxial strain ranging from 5%- 20% at 6 cycles per minute for 48 hours. Unstrained cells were used as controls. The culture media was recovered and assayed for collagen content using Sircol Collagen Assay (Biocolor, UK). Each experiment consisted of 6 treated and 6 control wells. Each experiment was performed 3 times with cells from different passages. Cells were recovered and extracted for RNA to assess collagen transcription. Type 1 collagen transcription was assayed by real time RT-PCR using primers for the alpha 2 chain of Type 1 Collagen and normalized to beta-actin.

**RESULTS:** Collagen production increased significantly under mechanical strain of 5-20%. Collagen transcription was also found to be significantly increased in the strained cells. Collagen production appeared to increase with increasing degree of strain.

**CONCLUSION:** Cervical stromal cells produce more collagen after mechanical strain. Mechanical strain induces increased collagen transcription. Mechanical strain is likely to play a role in regulating cervical remodeling during pregnancy.

0002-9378/\$ – see front matter • doi:10.1016/j.ajog.2009.10.181

## 167 Preferences toward mode of delivery using utility metrics

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**OBJECTIVE:** To characterize maternal preferences toward mode of delivery and various perinatal outcomes using utility metrics.

**STUDY DESIGN:** A cross-sectional survey of 388 women in outpatient clinics at our institution during the third trimester of pregnancy. Women were surveyed for demographics, obstetric history, and preference toward vaginal delivery (VD) vs. cesarean delivery (CD). Preferences toward MOD were assessed using willingness to pay (WTP) and time trade off (TTO) metrics. Chi-square tests were done to analyze differences in preferences among subgroups, and multivariate analyses controlled for potential confounders.

**RESULTS:** Fifty-seven percent of those preferring VD and 68% desiring CD were willing to pay any money to achieve their preferred MOD, with a median of \$1000 for both modes. Thirty-seven percent of patients preferring VD and 27% desiring CD were willing to trade any time at the end of life for preferred MOD, with a median of 6 and 18 months, respectively. After adjusting for age, parity, ethnicity, education, and income, women >30 years demonstrated an aOR of 3.14 (95% CI 1.29-7.63) for willingness to trade any time at the end of life to achieve preferred VD.

**CONCLUSION:** Women >30 years were more likely to trade any money or time at the end of life to achieve preferred VD, and women with at least some college education demonstrated a higher rate of willingness to trade any money for the same. Understanding women's preferences gives important insight into reasons behind the changing MOD trends in this country.

## WTP and TTO for preferred VD.

	WTP for VD	TTO for VD
Nulliparous	60.2% (p=0.500)	41.3% (p=0.166)
Multiparous	55.8% (p=0.500)	32.4% (p=0.166)
Age >30	64.8% (p<0.001)	40.9% (p=0.055)
Age <30	38.0% (p<0.001)	29.0% (p=0.055)
At least some college	62.6% (p<0.001)	34.9% (p=0.467)
Less than some college	35.7% (p<0.001)	41.0% (p=0.467)

0002-9378/\$ – see front matter • doi:10.1016/j.ajog.2009.10.182

## 168 Perineal body length and associations with perinatal outcomes

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**OBJECTIVE:** To investigate associations between perineal body length (PBL) and perinatal outcomes such as lacerations and mode of delivery.

**STUDY DESIGN:** Prospective study of women with singletons who received prenatal care and delivered at our institution. PBL was measured from the posterior vaginal fourchette to the center of the anus to the nearest 0.5cm in the third trimester. Subsequent perinatal outcomes were examined using univariate and multivariable analyses.

**RESULTS:** PBLs in our study population ranged from 2 to 7cm, with a median of 4cm. PBLs 3cm (10%ile) were considered short. Comparing women with short perineums to those with PBLs >3cm, 51.7% and 53.2% (p=0.894), respectively, experienced a perineal laceration during vaginal delivery (VD). 72.5% (79/109) of women with PBLs >3cm achieved VD, while 90.6% (29/32) of women with short PBLs achieved the same (p=0.033), a difference which was more pronounced when stratified by nulliparity (see table). In multivariable analyses, women with short PBLs demonstrated an aOR of 3.84 (95%CI:1.1-14.6) for achieving VD, after adjusting for prior vaginal delivery, birthweight, gestational age, and maternal age.

**CONCLUSION:** Differences in perineal laceration rates were not observed between women with short PBLs and those with PBLs >3cm; however, women with short PBLs were found to have higher rates of achieving vaginal delivery, particularly among nulliparas. Further investigation will be valuable to determine factors contributing to this finding.

## PBL and mode of delivery.

	Vaginal delivery	Cesarean delivery	p-value
PBL 3cm	90.6%	9.4%	0.033
PBL >3cm	72.5%	27.5%	0.033
PBL 3cm among nullips	100.0%	0.0%	0.016
PBL >3cm among nullips	70.2%	29.8%	0.016

0002-9378/\$ – see front matter • doi:10.1016/j.ajog.2009.10.183