

# Evaluating cervical length monitoring to predict spontaneous preterm birth in women with high risk factors for preterm birth

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**Introduction** – Uterine anomalies, prior sPTB, prior LLETZ, full dilatation caesarean section are risk factors for preterm birth. In such women 2<sup>nd</sup> trimester cervical length monitoring is used to detect cervical shortening. This study assessed the role of cervical length surveillance to predict sPTB in this population

**Methods** – This retrospective study included women with singleton pregnancies & known risk factors for sPTB referred to the preterm prevention clinic (2020 – 2024). Cervical length was measured with transvaginal ultrasound at 16-24 weeks gestation. For comparison, we analysed women without sPTB risk factors who delivered preterm. Odds ratio (OR) was calculated to compare sPTB risk in women with short cervix (<25mm) versus a normal cervix (>25mm) and receiver operating characteristic (ROC) curves were used to derive the area under curve (AUC) and assess predictive performance.

**Results** – Of 502 women, 49 (9.7%) had CUA, 156 (31%) a history of sPTB, 244 (48.6%) had prior LLETZ, and 53 (10.5%) had caesarean section at full dilatation. In this high risk group, sPTB before 37 weeks occurred in 11.7% compared with 0.6% (233/38,557) in low risk population. Prevalence of sPTB in women with CUA, prior LLETZ, prior sPTB, full dilatation caesarean section was 10.2% , 7.78%, 19.8% & 7.54% respectively. A short cervix increased sPTB risk in LLETZ group (OR 8.57, [2.53– 29.02]), with no effect in women with CUA (OR 2.63 , [0.09 – 63.01]) & prior full dilatation caesarean section (OR 3.59, [ 0.12 – 101.70]). ROC analysis showed AUC’s of 0.57, 0.63, 0.50 & 0.39 for CUA, LLETZ, prior sPTB, & full dilatation caesarean section respectively.

**Conclusion** - Cervical length surveillance has limited predictive value for sPTB in most high risk groups, likely due to low prevalence of cervical shortening. In women with prior LLETZ, cervical shortening was linked to a higher risk of sPTB. Larger well – powered prospective studies are needed to clarify the role of cervical length surveillance in this population.

