



Should lower uterine segment thickness measurement be included in the TOLAC decision-making process?

Yes, if providers and patients are willing to accept a lower TOLAC rate in women with a measurement <2.5 mm. In a prospective study,

1,856 women with a previous cesarean delivery underwent lower uterine segment thickness measurement at 34 to 38 weeks and were stratified as high, intermediate, and low risk for uterine rupture associated with TOLAC. The trial of labor rate was 9%, 42%, and 61% in the 3 categories, respectively ($P < .0001$). Of the 984 undergoing TOLAC, no symptomatic uterine ruptures occurred, significantly lower than the expected rate of 0.8% ($P = .0001$).

Jastrow N, Demers S, Chaillet N, et al. Lower uterine segment thickness to prevent uterine rupture and adverse perinatal outcomes: a multicenter prospective study [published online ahead of print June 21, 2016]. Am J Obstet Gynecol. doi:10.1016/j.ajog.06.018.

► EXPERT COMMENTARY

► **Joshua Dahlke, MD**, Attending Physician, Division of Maternal-Fetal Medicine, Department of Obstetrics and Gynecology, Nebraska Methodist Women's Hospital and Perinatal Center, Omaha, Nebraska.

After having a previous cesarean delivery (CD), women who subsequently become pregnant inevitably face the decision to undergo a repeat CD or attempt a trial of labor after cesarean (TOLAC). Currently in the United States, 83% of women with a prior uterine scar are delivered by repeat CD.¹ According to the Consortium on Safe Labor, more than half of all CD indications are attributed to having a prior uterine scar.¹

Furthermore, only 28% of women attempt a TOLAC, with a successful vaginal birth after cesarean (VBAC) rate of approximately 57%.¹

The reason for the low TOLAC rate is multifactorial, but a primary concern may be the safety risk of a TOLAC as it relates to uterine rupture, a rare but potentially catastrophic complication. In a large, multicenter prospective observational trial of more than 17,800 women attempting a TOLAC, the symptomatic uterine rupture rate was 0.7%.² As such, efforts to identify women at highest risk for uterine rupture and those with characteristics predictive of a successful VBAC have remained ongoing. Jastrow and colleagues have expanded this body of knowledge with their prospective cohort study.

Details of the study

The researchers assessed lower uterine segment thickness via vaginal and abdominal ultrasound at 34 to 38 weeks' gestation

The author reports no financial relationships relevant to this article.

CONTINUED ON PAGE 55

FAST TRACK

While women with a lower uterine segment ≥ 2.5 mm appear to have a minimized risk for uterine rupture with TOLAC, outcomes data are insufficient for those with a measurement of < 2.5 mm



in more than 1,850 women with a previous CD. Women enrolled in the trial were classified into 3 risk categories based on lower uterine segment thickness: high risk (<2.0 mm), intermediate risk (2.0 to 2.4 mm), and low risk (≥ 2.5 mm). The investigators' objective was to estimate the occurrence of uterine rupture when this measurement was included in the decision-making process on mode of delivery.

An important aspect of this study involved how the provider discussed the mode of delivery with the patient after the lower uterine segment measurement was obtained. Both the provider and the patient were informed of the risk category, and further counseling included the following:

- average overall uterine rupture risk, 0.5% to 1%
- if <2.0 mm, uterine rupture risk likely >1%
- if ≥ 2.5 mm, uterine rupture risk likely <0.5%
- uterine rupture risks (including perinatal asphyxia and death)
- maternal and neonatal complications of cesarean
- estimation of likelihood for successful VBAC.

How did risk-stratified women fare?

In approximately 1,000 cases, the authors reported no symptomatic uterine ruptures. Of particular interest, however, is the rate of women attempting a TOLAC in each category:

- 194 women with high risk
 - 9% underwent a TOLAC
 - 82% had a successful vaginal birth
- 217 women with intermediate risk
 - 42% underwent a TOLAC
 - 78% had a successful vaginal birth
- 1,438 women with low risk
 - 61% underwent a TOLAC
 - 66% had a successful vaginal birth.

WHAT THIS EVIDENCE MEANS FOR PRACTICE

What is clear from this valuable study is that, armed with information on lower uterine segment thickness, fewer women will undergo TOLAC if that measurement is thinner rather than thicker. This study may therefore help answer the ultimate question, "Does the information obtained from measuring lower uterine segment thickness increase or decrease the willingness of both provider and patient to undergo a trial of labor?" In this large cohort, more than 3 out of every 4 women had a lower uterine segment thickness of ≥ 2.5 mm, and this measurement may be considered both reassuring and risk minimizing. Given the few women who underwent a TOLAC while having a measurement of <2.5 mm, it remains unclear if the counseling dissuaded the women from a TOLAC and subsequently prevented uterine rupture or if this additional information unnecessarily prevented potential candidates from attempting a TOLAC.

Bottom line: For women with a lower uterine segment measurement ≥ 2.5 mm, uterine rupture risk appears to be minimized. However, there remains insufficient data on outcomes of those who undergo a TOLAC when a measurement is <2.5 mm.

>> JOSHUA DAHLKE, MD

FAST TRACK

It is unclear whether cesarean scar defect dehiscence predicts or is a prerequisite for uterine rupture if labor occurs

Considering cesarean scar defect

Finally, uterine scar defects at CD in those who underwent a TOLAC were 0/3 (0%), 5/21 (25%), and 20/276 (7%) in the high-, intermediate-, and low-risk groups, respectively. Given the observational nature of the study, the authors suggest that uterine scar dehiscence may be predictive of labor dystocia, but it remains unclear if it predicts or is a prerequisite for subsequent uterine rupture if labor occurs. 📌

References

1. Zhang J, Troendle J, Reddy UM, et al; Consortium on Safe Labor. Contemporary cesarean delivery practice in the United States. *Am J Obstet Gynecol.* 2010;203(4):326.e1-326.e10.
2. Landon MB, Hauth JC, Leveno KJ, et al; National Institute

of Child Health and Human Development Maternal-Fetal Medicine Units Network. Maternal and perinatal outcomes associated with a trial of labor after prior cesarean delivery. *N Engl J Med.* 2004;16;351(25):2581-2589.