

## Ultrasound-indicated cerclage in high risk women

*Multicenter randomized trial of cerclage for preterm birth prevention in high-risk women with shortened midtrimester cervical length. Owen J, Hankins G, Iams JD, et al. Am J Obstet Gynecol 2009; 201:375.*

Four randomized trials evaluated ultrasound-indicated cerclage (UIC) with conflicting results. A meta-analysis of these four trials demonstrated a benefit to cerclage in **high-risk women** (history of PTB) with a **singleton** gestation.

Owen and colleagues conducted the largest multicenter trial to date on **high-risk** women. Serial cervical length ultrasounds were performed between **16 0/7 – 22 6/7** weeks. Women were eligible for randomization if the cervical length was less than 2.5 cm.

The primary outcome was PTB less than 35 weeks. In women with a prior PTB **and** a cervical length of less than 1.5 cm, UIC reduced preterm birth.

With a cervical length between 1.5 – 2.4 cm, birth less than 24 weeks and perinatal mortality were less frequent in the cerclage group, but the primary outcome was not affected by cerclage.

Owen et al suggest that in women with a history of PTB and a short cervix, cerclage improves outcomes with no demonstrable harm. This is particularly true with a cervical length less than 1.5 cm. Cervical lengths in the 1.5 – 2.4 range are more complex. Case-by-case management – ideally with MFM input – is suggested.

## Elective delivery prior to 39 weeks strongly discouraged

*Labor induction process improvement. Fisch JM, English D, Pedaline S, et al. Obstet Gynecol 2009; 113:797.*

Magee-Womens has experienced a large increase in deliveries, from 6,761 in 1999 to 9,379 in 2007. Additionally, the hospital's induction of labor rate was at 24.9 percent. These factors led the above authors to describe their L&D unit as, "No room at the inn."

Their blueprint to solve this problem: a quality-of-care initiative introduced in 2004. This initiative required that elective inductions could only be performed in a well-dated pregnancy **after 39 weeks of gestation** and with a **favorable cervix** – no ripening agents were permitted. For nulliparas, a Bishop score of 8 was required for an elective IOL; for multiparas, a Bishop score of 6 was required.

These guidelines were introduced in 2004, reinforced in 2005 and enforced in 2006. The guidelines were delivered "repetitively and consistently," in the form of meetings, newsletters and one-on-one conversations. After 2006, elective inductions that did not meet criteria triggered a meeting with the responsible physician. Letters were sent to the physician regarding the inappropriate induction and the letter became part of their permanent re-credentialing file.

The following changes were observed after implementing the induction initiative:

- Overall induction rate: 24.9 percent in 2004 to 16.6 percent in 2007, a 33 percent decline
- Percentage of elective inductions before 39 weeks: 11.8 percent to 4.3 percent, a 64 percent decline
- Cesarean delivery among nulliparas undergoing elective induction: 34.5% to 13.8%, a 60% decline

These findings were echoed by Reisner et al (Am J Obstet Gynecol 2009; 200: 647) who implemented an induction management program at the Swedish Medical Center and found a lower rate of elective inductions and primary cesarean delivery rate.

*Commentary, Makemson:* At Carolinas Medical Center, we have adopted a policy to eliminate elective inductions less than 39 weeks gestation. The goal is not to dictate practice management, but rather to reduce unnecessary inductions that have been associated with increased maternal and fetal risks. Many private obstetricians have commented that the protocol has been helpful for counseling and educating patients that request early induction of labor for social reasons.



Carolinas Medical Center  
Women's Institute

1025 Morehead Medical Drive, Suite 500  
Charlotte, NC 28204



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## Late preterm birth (PTB) is not benign

*Adverse neonatal outcomes: examining risks between preterm, later preterm, and term infants. Bastek JA, Sammel MD, Pare E, et al. Am J Obstet Gynecol 2008; 199: 367.*

Recent evidence suggests that late preterm infants – those between 34 0/7 to 36 6/7 weeks – are at increased risk for adverse outcome. This recognition prompted the National Institutes of Health and Human Development to call for increased research on the morbidities of the late preterm infant.

Bastek and colleagues performed a retrospective cohort study at the University of Pennsylvania. They used *composite* variables, the COMP-1 and the COMP-2, to summarize neonatal outcomes.

- Preterm: 32 0/7 – 33 6/7 weeks
- Late preterm: 34 0/7 – 36 0/7
- Term: after 37 weeks

Neonates in preterm and late preterm cohorts were delivered after spontaneous PTL. The study authors adjusted their findings for race, chorioamnionitis, infant gender, and time from antenatal steroid administration to delivery. When compared to term deliveries,

- 35 0/7 – 35 6/7 weeks: **3-fold increase** in neonatal composite morbidity
- 34 0/7 – 34 6/7 weeks: **7-fold increase** in neonatal composite morbidity

Unexpectedly, these authors also found that the risk of adverse outcomes was *comparable* between the “preterm” cohort and the “late preterm” cohort.

These authors caution that “the delivery of a 34 week infant should not be considered routine or without potentially significant risk.” They call for prospective studies to assess for an extension of the gestational age at which antenatal corticosteroids are given, as well as the gestational age at which gravidas with PPRM are induced.

*Commentary, Fisher, Neonatology Division Director:* Being born before 37 weeks is associated with substantial short term risks, including frequent admissions to the neonatal ICU. There is growing evidence that there are increased longer term risks of a broad range of developmental delays. Forgoing elective delivery and delaying delivery where possible seems to provide significant benefit to this group of infants.

## Repeat antenatal corticosteroids: time for a rescue course?

*Impact of a ‘rescue course’ of antenatal corticosteroids: a multicenter randomized placebo-controlled trial. Garite TJ, Kurtzman J, Maurel K et al. Am J Obstet Gynecol 2009; 200: 248.*

Although antenatal corticosteroid (ACS) administration was first shown to be of benefit in the 1970s, it was not until the 1994 ACOG and NIH consensus statements that ACS use became widespread. For a time, the practice became *too* widespread, with many practitioners giving weekly courses until 34 weeks. Weekly courses were ultimately shown to adversely affect birth weight and head size, and this process was largely abandoned.

However, the utility of a *single* ‘rescue’ course remained unclear; Garite et al recently performed a multicenter, gold-standard trial examining this issue. Study patients met the following criteria:

- Intact membranes
- 25 0/7 – 32 6/7 weeks
- Judged to have recurrent or continued threat of preterm birth within the next week
- First course of ACS at least 14 days prior to enrollment and prior to 30 weeks

The primary outcome – a composite of neonatal morbidity – was decreased in the ‘rescue’ group. Moreover, a single ‘rescue’ course did not appear to negatively impact growth – there were no differences in birth weight, rates of IUGR, or head circumference.

Two points deserve special mention. First, this study underscores the difficulty in predicting when PTB will occur – the mean interval from randomization to delivery was > 3 weeks in each group. Second, given concerns of efficacy and increased morbidity, women with **PPROM were excluded** from the trial.

These authors conclude that patients who received a single course of ACS but threaten to deliver prematurely a week or two later – and are at less than 33 weeks – may be best treated with a single ‘rescue’ course.