



# Are a short cervix and a history of preterm birth absolute indications for cervical cerclage?

**No** A short cervix and a history of preterm birth are strong predictors of early delivery, but the predictive accuracy may be different in different risk populations. In this multicenter randomized trial, only women who had a cervix shorter than 15 mm and a history of spontaneous preterm birth had a significantly lower rate of preterm birth when cerclage was placed than they did when it was not. However, the broader pool of subjects, which included women who had a cervix as long as 25 mm, did not have a reduced rate of preterm birth at less than 35 weeks' gestation when cerclage was placed—although they were less likely to experience preterm birth and perinatal mortality.

Owen J, Hankins G, Iams JD, et al. Multicenter randomized trial of cerclage for preterm birth prevention in high-risk women with shortened midtrimester cervical length. *Am J Obstet Gynecol.* 2009;201:375.e1-375.e8.

## ► EXPERT COMMENTARY

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The original indication for cervical cerclage, as devised more than 50 years ago, included both historical and contemporaneous findings:

1) a history of second-trimester loss involving painless cervical dilatation in the absence of infection, bleeding, amniorrhexis, and fetal demise

2) asymptomatic cervical changes in the current pregnancy.

Although our understanding of cervical insufficiency has undergone many revisions and reinterpretations in the intervening years, we still lack an accepted diagnostic test or proven criteria for diagnosis. Cerclage is

placed in 1% of all pregnancies in the United States, but there is no consensus on indications, and the effectiveness is still a matter of debate.<sup>1</sup> Cerclage placement based on ultrasonographic (US) measurement of cervical length has been proposed as the solution to this clinical quagmire, in the wake of evidence suggesting that cervical length may act as a surrogate for cervical competence.

A patient-level meta-analysis of four randomized trials of cervical cerclage, published

## WHAT THIS EVIDENCE MEANS FOR PRACTICE

Ultrasonographic surveillance of cervical length can provide you with useful information when a woman who has a history of spontaneous preterm birth at less than 34 weeks' gestation is pregnant with a singleton gestation. Serial sonographic surveillance of cervical length may be conducted every 1 to 2 weeks, between 16 and 24 weeks' gestation. This approach may help identify the candidate likely to benefit from cerclage and may prevent unnecessary surgical intervention in another. Do not place cerclage "just in case"; it may benefit some gravidas but harm others.

Emerging evidence appears to show that only women who have historical risk factors plus a short cervix (<20 mm), and who do not have infection or inflammation, may benefit from cerclage. Until more information becomes available, a pregnant woman who has a positive fetal fibronectin test after 22 weeks' gestation, cervical length of 20 to 25 mm, or a short cervix as an incidental finding may instead be a candidate for progesterone supplementation.

» ALEX C. VIDAEFF, MD, MPH

## FAST TRACK

Only women who had a cervix shorter than 15 mm and a history of spontaneous preterm birth had a lower rate of preterm birth when cerclage was placed

in 2005, reconfirmed the original indication for cerclage. In women who had a cervical length below 25 mm, cerclage reduced the rate of preterm birth at less than 35 weeks' gestation only if they had a history of preterm birth.<sup>2</sup> This finding prompted the question: Would such women represent a truly homogeneous population in terms of therapeutic response to cerclage?

The Owen trial attempts to answer this specific question.

### Details of the trial

Women who had a cervix shorter than 25 mm and a history of preterm birth and who were pregnant with a singleton gestation were eligible. Candidates for elective cerclage based on history, or for emergency cerclage based on cervical dilatation of at least 2 cm with visible membranes, were excluded from the study—possibly reducing the generalizability of the findings.

For the remaining 302 participants, cerclage appeared to have an overall benefit when survival analysis took the duration of gestation into consideration. But only women who had a cervical length below 15 mm had a significant reduction in the primary outcome (preterm birth at less than 35 weeks' gestation) with cerclage. These results are somewhat reminiscent of the findings of a randomized comparison of cerclage and 17 $\alpha$ -hydroxyprogesterone caproate in women who had a short cervix (measured by US), in which cerclage proved to be superior only when cervical length was less than 15 mm.<sup>3</sup>

### Why the 15-mm cutoff isn't definitive

Despite these findings, the 15-mm measurement cannot be assumed to be completely prescriptive because it was selected somewhat

arbitrarily. Furthermore, it may be inadvisable to wait for cervical length to decrease below 15 mm. In pregnancies in which cervical length is below 5 mm, there is a significantly higher expression of intra-amniotic inflammation than in those in which cervical length is 6 to 25 mm, according to another recent study.<sup>4</sup> Women who have a very short cervix may be far along the inflammatory cascade and may have already entered the irreversible phase of parturition, reducing the efficacy and even the advisability of cerclage. A positive fetal fibronectin test (as a marker of inflammation and chorio-decidual disruption) and an increased level of interleukin-8 in cervical mucus reportedly identified a subgroup of women with a short cervix who would not benefit from cerclage—and who might even be harmed by it.<sup>5,6</sup>

Because preterm birth is such a complex disorder, it is unlikely that one intervention will be effective in all women—even within a certain stratum of cervical length. Rather, it may be necessary to identify subsets of pregnant women amenable to targeted or tailored intervention.

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**Because preterm birth is a complex disorder, it is unlikely that one intervention will be effective in all women—even within a certain stratum of cervical length**

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# Does the clinical breast exam boost the sensitivity of mammography?

**Yes** But adding clinical breast examination (CBE) to mammography also increases the rate of false-positive findings, according to a cohort study of 290,230 women in Canada. When CBE was added to mammography for screening, the sensitivity of screening for detecting malignancy increased to 94.9%, compared with 88.6% in centers that did not include CBE. At the same time, the false-positive rate was 12.5% when CBE was included in screening, versus 7.4% when it wasn't.

*Chiarelli AM, Majpruz V, Brown P, Thériault M, Shumak R, Mai V. The contribution of clinical breast examination to the accuracy of breast screening. J Natl Cancer Inst. 2009;101:1236-1243.*

## ► EXPERT COMMENTARY

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Optimal screening for breast cancer is a topic of debate and interest for physicians in many disciplines who play a role in diagnosis and management of this disease. Through improvements in early detection and treatment, we now see longer survival in women who have breast cancer. The burden of disease remains high, however, with one of every eight women in the United States being given a diagnosis of invasive breast cancer.<sup>1</sup>

Historically, physicians relied on CBE to identify masses. With the advent of mammography, however, and increasing evidence of its efficacy in detecting malignancy, mammography became the new norm for screening, and remains the gold standard for detection of breast cancer. It is clear that mammography can detect some types of lesions long before they can be palpated on clinical exam.

## Mammography isn't perfect

The sensitivity of mammography to detect breast cancer ranges from 68% to 88%, depending on the patient's menopausal status, breast density, and other characteristics. Certain types of breast cancer, such as invasive lobular carcinoma, are more difficult to detect with mammography. Many major medi-

## WHAT THIS EVIDENCE MEANS FOR PRACTICE

After counseling the patient about the possibility of false-positive findings, perform clinical breast examination as part of breast cancer screening (i.e., including mammography). Barton and colleagues suggest that CBE include at least 3 minutes of palpation per breast using specific techniques, including the following:

- Begin palpation in the axilla and continue in a straight line down the midaxillary line to the bra line. Move the fingers medially and continue palpation up the chest in a straight line to the clavicle. Move the fingers medially again and palpate back down to the bra line, continuing in this fashion until the entire breast has been covered, with overlapping rows.
- Hold the middle three fingers together and slightly flex the metacarpophalangeal joint. Use the pads—not the fingertips—to examine the surface of the breast, and palpate each area by moving the fingers in a small circle, as though tracing the outline of a dime. Make three circles at each spot using light, medium, and then deep pressure to ensure that all levels of tissue are palpated.
- Palpate the supraclavicular and axillary regions as well as the breast to detect any adenopathy.
- Palpate the nipple in the same manner as the rest of the breast.<sup>2</sup>

» JENNIFER GRIFFIN, MD  
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## FAST TRACK

Adding a clinical breast examination to mammography increased the sensitivity of screening but also raised the false-positive rate



cal organizations, including ACOG and the American Cancer Society, continue to recommend CBE as a component of the screening process. Most ObGyns value their role in screening women for cancer and generally believe that CBE is an important element of well-woman care. In addition, as Barton and colleagues point out, some women are more accepting of CBE than of mammography.<sup>2</sup>

#### **CBE took 8 to 10 minutes**

The Chiarelli study is a large, well-designed study that included women 50 to 69 years old who participated in breast-screening programs in Ontario. Women were screened by mammography alone or mammography combined with CBE. Examinations were standardized and performed by well-trained and certified nurses, and the CBE took an average of 8 to 10 minutes.

Surveys of American women suggest that most of them would accept the possibility of undergoing biopsy for a negative finding for

the sake of improving detection of breast cancer. The study by Chiarelli and colleagues supports the current practice of ObGyns and other primary care providers who perform CBE as a component of screening, and is congruent with our patients' wish to optimize the sensitivity of screening.

To be effective, however, the quality of our exams must be consistent with those described in the study. In a published review, CBE in the community setting did not yield the same sensitivity reported in randomized trials.<sup>3</sup> We must remain cognizant of the goals of CBE and educate our patients about the benefits, limitations, and risks of screening. ❌

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