



# Does treatment of cervical intraepithelial neoplasia always increase the risk of preterm birth in subsequent gestations?

**No.** In this retrospective-prospective cohort study from England, the risk of preterm delivery in women treated for cervical intraepithelial neoplasia (CIN) was significantly lower than the risk reported in many other studies. In fact, after investigators adjusted for confounding factors, the increased risk of preterm delivery after treatment for CIN ceased to exist.

*Castanon A, Brocklehurst P, Evans H, et al; PaCT Study Group. Risk of preterm birth after treatment for cervical intraepithelial neoplasia among women attending colposcopy in England: retrospective-prospective cohort study. BMJ. 2012;345:e5174. doi: 10.1136/bmj.e5174.*

## ► EXPERT COMMENTARY

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Several studies have suggested that the risk of preterm birth increases after treatment for CIN. For example, a meta-analysis of 27 studies found a relative risk (RR) of preterm delivery of 1.70 after treatment for CIN (95% confidence interval [CI], 1.24–2.35).<sup>1</sup> Later studies from Nordic countries estimated the RR at 1.8 to 2.8.<sup>2,3</sup>

In the United Kingdom, women who have abnormal findings at the time of cervical cancer screening are referred to clinics that specialize in the assessment and management of CIN. At these clinics, colposcopy and punch cervical biopsy are used to evaluate patients. When treatment is warranted, loop electrosurgical excision procedures (LEEP) are the most common intervention.

## Details of the study

Investigators focused on two groups of women referred to large colposcopy clinics

(more than 550 new patients annually) between 1987 and 2009:

- **untreated group:** those who underwent punch biopsy only
- **treatment group:** those who had an excisional procedure.

Women were followed both retrospectively (previous births) and prospectively (subsequent births) to assess gestational age at delivery. The risk of preterm birth (<37 weeks) was compared between groups.

Among women who delivered after colposcopy, the risk of preterm birth was significantly higher in the treatment group than in the untreated group (adjusted RR, 1.19;  $P < .05$ ). However, when investigators focused on births

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## FAST TRACK

Women who delivered singleton infants both before and after treatment for CIN had a slightly lower risk of preterm birth in the second gestation

## WHAT THIS EVIDENCE MEANS FOR PRACTICE

These important findings should inform decisions about who should treat CIN and how they should treat it. Practitioners who manage a high volume of lower genital tract disease and take care to minimize tissue excision and destruction at the time of treatment are likely those whose patients have the best obstetric outcomes following treatment for CIN.

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prior to colposcopy, the risk of preterm delivery was significantly higher in women who were subsequently treated than in those who were untreated (RR, 1.31;  $P < .05$ ).

Among untreated women who had a birth prior to evaluation for CIN, the risk of preterm delivery in the subsequent pregnancy was marginally, though significantly, higher than the risk associated with the delivery prior to biopsy (RR, 1.14;  $P < .05$ ). However, among treated women, the risk of preterm delivery was marginally lower after treatment, compared with their risk in the pregnancy before treatment (RR, 0.94;  $P > .05$ ).

### **Expertise of the physician may play a role in the risk of preterm birth**

This study's finding of a higher risk of preterm birth after treatment, compared with before treatment, would seem to support earlier studies that show an increased risk of preterm birth after LEEP. However, the finding that women destined to undergo treatment of CIN had a higher rate of preterm delivery before that treatment is surprising. And the fact that women who gave birth both before and after treatment had no elevated risk of preterm delivery in the later pregnancy is even more startling.

So what are we to make of these data? They suggest that, at least among women receiving care at high-volume specialty clinics in England, the treatment of CIN does not increase the risk of preterm delivery. Castanon and colleagues hypothesize that the clinicians who work in these clinics may remove less tissue during treatment than other clinicians do, minimizing the risk of later preterm delivery.


### **A cervical cancer screening expert weighs in**

Tom Cox, MD, is past president of ASCCP, the Society for Lower Genital Tract Disease, and a widely published expert on cervical cancer screening. He is also an OBG MANAGEMENT

Contributing Editor. When asked for his take on the conclusions of Castanon and colleagues, he agreed that the data are highly credible.

"The findings are different than most of the world literature on this subject," he continued, "and it may be indeed, as the authors suggest, due to less tissue being removed during surgical excision procedures in England, compared with other countries. If that is true, it may be because colposcopists in the United Kingdom receive a higher level of training and are subject to more rigorous quality control than we have in the United States and in other countries—although most of the studies demonstrating odds ratios of 2 to 3 for preterm birth following treatment have been conducted in Scandinavian countries known for their high-quality medical care."

Castanon and colleagues are at work on Phase 2 of this study, and Dr. Cox anticipates that its findings will help determine why CIN treatment did not increase the risk of preterm delivery.

"Although colposcopy training is far less rigorous in the United States, and quality control is virtually lacking, it has been thought that, in general, the size of cervical excisions in the United States are likely to have been smaller than in the United Kingdom, where large loop excision of the T-zone (LLETZ), using larger loops than with LEEP, has been common. So it will be interesting to see the authors' promised Phase 2 article, which compares the size of the excision with outcomes." 

### **References**

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**Clinicians who work in specialized clinics may remove less cervical tissue during excision than other clinicians do, minimizing the risk of later preterm delivery**