

# Should a nylon brush be used for Pap smears from pregnant women?

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## EVIDENCE-BASED ANSWER

Use of a nylon brush (Cytobrush and others) with spatula to obtain Papanicolaou (Pap) smears from pregnant women is more likely to obtain sufficient endocervical cells, without adverse consequence for the mother or for the fetus. This method is also most likely to be cost-effective. However, current

evidence does not support any superiority of the nylon brush with spatula for any patient-oriented outcomes (eg, fewer procedures, less cancer, etc) during or after pregnancy (strength of recommendation: **A**; based on multiple randomized controlled trials).

## CLINICAL COMMENTARY

### Use the spatula and brush for Pap smears from pregnant women

The evidence for safety and efficacy supports the use of the spatula and brush for obtaining Pap smears from pregnant women. You will have fewer inadequate smears that need to be repeated, but you will need to warn the patient of spotting that may occur after the specimen is obtained. For

ThinPrep Pap smears, remember to follow the same recommendations as for nonpregnant women—turn the spatula the full 360° in contact with the cervix and only turn the brush a half-turn. Being overly aggressive to collect endocervical cells by twirling the brush may cause more bleeding.

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### ■ Evidence summary

A Cochrane review of Pap smear sampling devices for nonpregnant women concludes that the cervical brush with spatula is more effective at collecting endocervical cells and producing adequate Pap smears.<sup>1</sup> Based on more limited evidence, the higher rate of adequate smears is associated with the detection of more cytologic abnormalities. However, the manufacturer of Cytobrush (Medscand) recommends that the device not be used after the first 10 weeks of pregnancy, raising issues of both effectiveness and safety in this population.

Upon review of the literature, these concerns appear to be unfounded. In multiple studies involving more than 25,000 pregnant and nonpregnant patients, the brush was consistently shown to be the method obtaining the highest rate of adequate smears—ie, those containing endocervical cells.<sup>2-10</sup> Furthermore, in studies including about 1900 pregnant patients, the brush with spatula caused no significantly increased risk of serious adverse outcomes, nor any trend in that direction.<sup>5-7,9-11</sup> The device did cause a slight increase in self-limited vaginal spotting.

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In theory, a more accurate Pap smear could lead to patient-oriented outcomes, such as less need for procedures to diagnose and treat cervical cytologic abnormalities, reduced incidence of invasive cervical cancer, and fewer patient deaths from cervical cancer. No data on these outcomes is available. Some studies did look for differences in the detection of cytologic abnormalities between the brush with spatula and the swab with spatula methods. Most small studies and a meta-analysis showed no difference.<sup>2,3,8,9</sup> One study showed a trend towards improved yield; in another study, the brush with spatula significantly improved the ability to detect cytologic abnormalities in pregnant patients.<sup>7,10</sup>

Three studies addressed cost-effectiveness of the brush in pregnancy.<sup>3,9,12</sup> Especially when including the cost of repeat Pap smears for inadequate specimens, the brush with spatula was rated most cost-effective in all 3 studies.

Comparison of the use of conventional Pap smear collection techniques with newer liquid-based cytology or human papilloma virus (HPV) typing has not yet been addressed in the literature.

**Recommendations from others**

“The Working Group’s Recommendations for Women in Low Risk Pregnancy” through the Veterans Health Administration lists use of a nylon cervical brush—no type is specified—as the appropriate sampling device in the late first trimester of pregnancy.<sup>13</sup> No recommendations specific to the Cytobrush were found.

The following organizations have made no recommendations for or against the use of the Cytobrush in pregnancy: US Preventive Services Task Force, American College of Obstetricians and Gynecologists, American Academy of Family Physicians, or the American Academy of Nurse-Midwives.

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**FAST TRACK**

**The nylon brush yields the highest rate of adequate smears throughout pregnancy, despite the manufacturer’s concern about the post-10-week period**