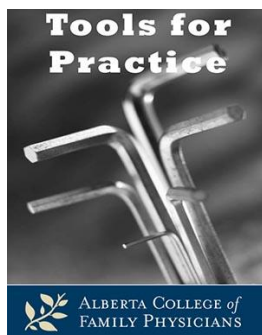


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Reviewed: December 6, 2017
Evidence Updated: Meta-analysis added
Bottom Line: No Change
First Published: March 1, 2010



PAP test: Does Lubricant reduce the quality (or adequacy)?

Clinical Question: Does the use of small amount of water-soluble lubricant on the speculum reduce the adequacy of the PAP test?

Bottom-line: A small amount of water-soluble lubricant on a speculum does not reduce the quality of the PAP test and probably does not affect microbiologic results. Adequacy of liquid-based PAP tests may be minimally affected or not at all.

Evidence:

- The largest randomized controlled trial (RCT)¹: 2,906 patients.
 - Water soluble lubricant on speculum versus tap water.
 - No difference in quality of cytology.
- Four smaller RCTs:
 - 70 to 400 patients: No difference in PAP test adequacy.²⁻⁵
 - Two investigated and found pain scores significantly lower in the lubricant group^{4,5} (example, mean score on visual analogue scale 1.4 in the lubricant group and 2.2 in the water group, $p < 0.01$).⁴
- Quasi-randomized, 3,460 PAP tests.⁶
 - No difference in PAP test adequacy.
- Conventional cervical cytology smears (glass slide) were used in most studies.^{1-3,5,6}
- A meta-analysis of these trials plus another quasi-RCT found no difference on PAP test adequacy or pain scores.⁷

Context:

- One study found "more than the usual amount of gel" could affect PAP test adequacy by applying an additional 1-1.5 cm 'ribbon' of gel directly to the cervical os before sampling.⁸
 - Clinicians don't do this, and it is not applicable to regular practice.
- One RCT assessed lubricant influence on liquid-based PAP tests and found no effect, although it may have been underpowered.⁵

- Two retrospective cohorts using liquid-based cytology found:
 - More unsatisfactory smears when lubricant was used (4.3% versus 1.8%, $p=0.01$).⁹
 - Obscuring material causing misinterpretation of PAP results on 0.4%: ~half may have been related to lubricant use.¹⁰
- Two studies applied lubricant directly into liquid-based cervical cytology samples:^{11,12}
 - One reported reduced cell counts, but impact on adequacy was not assessed/reported.¹¹
 - The second demonstrated no impact on liquid-based PAP test outcomes.¹²
- One RCT also examined if lubricant affected testing for Chlamydia and found no effect after 5,535 samples.⁶ (Gonorrhea too uncommon to assess.)
 - A laboratory study demonstrated that gel mixed with Chlamydia and Gonorrhea cultures did not impact plating or diagnosis.¹³

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