Chapter 9: The Papanicolaou Test

Learning Objectives

On completion of this section, the learner will be able to:

1. Identify ideal conditions for taking Pap tests.
2. Describe how to perform a person-centered Pap test.
3. Understand how to accurately label and prepare a Pap test specimen and complete a cervical cytology requisition form.
4. Identify abnormal findings and conditions that require follow-up.

Important Information

Correct sampling technique increases the adequacy of the sample and decreases the risk of a false negative result.1 “It is estimated that at least one third or more of false-negative cytology tests (negative results when a client has a high-grade cervical lesion) are related to sampling issues.”2

Ideal Conditions for Taking Pap Tests

- Avoid vaginal douching for 24 hours before the test.
- Avoid use of contraceptive creams or jellies for 24 hours before the test.
- Avoid intercourse for 24 hours before the test.
- Pap tests are not recommended during menstruation. A mid-cycle test is optimum, however, with the introduction of liquid based cytology, the concern for an unsatisfactory result due to menstrual blood is lowered. Ensure the client is having regular menstrual cycles with no abnormal bleeding patterns. Abnormal bleeding patterns should be investigated.

Sampling Areas

The area of the cervix at risk for pre-cancer and cancer is the transformation zone (TZ). The TZ is the area between the columnar epithelium of the endocervix and the mature squamous epithelium of the ectocervix. The TZ is not clinically apparent. Sampling both the endocervix and ectocervix improves the probability of sampling the TZ. With liquid based cytology, the broom OR plastic spatula and cytobrush are effective to capture cells from the TZ.
The Pap Test Procedure: Liquid Based Cytology

You will need the following equipment for a liquid based cytology (LBC) specimen:

- Vaginal speculum of appropriate size
- Portable light or a light source with a disposable speculum
- Liquid vial
- Broom-like sampling device (or plastic brush and plastic spatula sampling devices)
- Non-latex gloves
- Cotton tipped swab (optional)

The sampling and collection techniques for Ontario labs are as follows.

For more information, see Appendix 2: Cervical Cytology Resources.
Quick Reference Guide

ThinPrep® Pap Test
Instructions for specimen collection

ThinPrep Pap Test Cervex-Brush® protocol
- Prepare all equipment before starting the procedure.
- Note expiry date on sample collection vial. Do not use expired vials.
- Ensure the entire plastic seal is removed from the lid of the vial and discarded.
- Complete patient details on both the request form and the vial. Specimens may be returned if details are missing from the vial.
- Remove the lid from the vial before taking the sample.
- If lubrication of the speculum is required, a little warm water should be used.
  If necessary a small amount of water-soluble carbomer-free lubricant should be applied sparingly to the outer portion of the speculum with great care to avoid the tip as it may interfere with the ThinPrep Pap Test process.

Record patient ID on the vial as required by local regulations.
The patient information and medical history on the cytology requisition form.

Obtain an adequate sample from the cervix using a Cervex-Brush® (broom-like device). If desired, use lukewarm water to warm and lubricate the speculum. Sparingly apply water-soluble carbomer-free gel lubricant to the posterior blade of the speculum if necessary. Insert the central bristles of the brush into the endocervical canal deep enough to allow the shorter bristles to fully contact the ectocervix. Push gently, and rotate the brush 360° in a clockwise direction 5 times.

Rinse the Rovers® Cervex-Brush immediately into the PreservCyt® Solution vial by pushing it into the bottom of the vial 10 times, forcing the bristles apart. As a final step, swir the brush vigorously to further release material. Visually inspect the Rovers Cervex-Brush to ensure that no material remains attached. Discard the collection device.
Do not leave the head of the Rovers Cervex-Brush in the vial.

Tighten the cap so that the black torque line on the cap passes the black torque line on the vial.
Do not over-tighten.

Place the vial and requisition in a specimen bag for transportation to the laboratory.
Frequently Asked Questions

What do I do if the vial is knocked over?
If the vial is knocked over after the sample has been taken, look to see if any fluid still remains in the vial. If about one third of the fluid still remains in the vial, then the vial can still be sent to the lab for processing. Make a note on the request form to inform the laboratory of the sample spillage. Do not 'top up' the vial from a new vial as the lab will make any necessary level adjustments.

Can I take a ThinPrep sample if the patient is menstruating?
No. Per-menstrual samples should be avoided.

Can I use the Rovers Cervex-Brush where there is stenosis of the os?
It is still possible to use the Rovers Cervex-Brush however an endocervical brush may also be used at the discretion of the practitioner. Both sampling devices should be tried in the same patient vial.

Can I use the Rovers Cervex-Brush for vault samples?
Yes. You can use the Rovers Cervex-Brush to take vault samples. The device should be applied by using a sweeping action.

Can I use the Rovers Cervex-Brush if there is an extensive ectropion area?
Yes. You can use the Rovers Cervex-Brush when there is an extensive ectropion area. Collect the sample using a circular sweeping action.

Can I use a lubricant?
If lubrication of the speculum is required, a little warm water should be used. If necessary a small amount of water-soluble carbomer-free lubricant should be applied sparingly to the outer portion of the speculum with great care to avoid the tip as it may interfere with the ThinPrep Pap Test process.

Do I need to take a sample for HPV testing?
No. HPV testing can be performed on the same material collected for the ThinPrep Pap Test.

Do's
- Do gently remove any excessive mucus before sampling
- Do use either the Rovers Cervex-Brush (brush-like device) on its own or a plastic spatula and endocervical brush combination
- Do rotate the Rovers Cervex-Brush 5 times in a clockwise direction through 360°
- Do insert the endocervical brush such that you can see the lower row of the brittle and make a quarter to one half turn
- Do insert the Rovers Cervex-Brush device immediately into the vial by pushing it into the bottom of the vial 10 times, forcing the brittle apart.
- As a final step, swirl the brush vigorously to further release material. Visually inspect the Rovers Cervex-Brush device to ensure that no material remains attached. Discard the collection device
- Do replace the lid and tighten so that the black torque line on the cap passes the black torque line on the vial to avoid leakage
- Do keep the unlabelled portion of the sample vial free of tablets so that the contents can be seen
- Do send samples to the laboratory without delay

Don'ts
- Do not routinely clean the cervix or take a cervical swab before taking a cervical sample
- Do not use non-water-soluble lubricants containing carbomers
- Do not leave the collection device sitting in the vial whilst dealing with the patient
- Do not over tighten the lid onto the vial
- Do not detach the head of the Rovers Cervex-Brush into the vial
- Do not place multiple tablets on the outside of the vial
- Do not apply any physician bar-coded labels vertically on the vial, apply them horizontally
- Do not apply any labels over the lid of the container
- Do not use expired vials
- Do not delay the sending of the vials to the laboratory
BD SurePath™ Pap test technology is changing cervical cancer screening for the better.

BD SurePath™ Pap test unique collection device(s) all have detachable heads so you get more of the sample everytime.\(^1\)

BD SurePath™ Pap test is easy to use:

1. Collect
   - Collect the cytology sample using either a broom-like device or combination brush/plastic spatula with detachable heads. Follow manufacturer’s collection instructions for detachable head device(s).
   - Since the heads of these devices are detached and deposited into the vial, 100% of the collected sample can be sent to the lab for processing.
   - Alternatively, a rinse and swirl technique can result in discarding on average 37% of the sample collected during cell transfer\(^2\), which could mean the difference between finding an abnormality and missing it.

2. Drop
   - Use the interior rim of the BD SurePath™ Collection vial to pull off the head of the broom-like device into the large opening in the collection vial.

3. Send
   - Place the cap on the vial and tighten. Send the BD SurePath™ vial to the lab for processing.


\(^2\) Compared to conventional Pap smear. See BD PrepStain™ Slide Processor package insert. Direct-to-Vial study population, Table 26 for these clinical sites and these study populations. Note: Site to site variations in performance are expected.
BD SurePath™ test is easy to use with several collection device choices.

**Option 1**
BD SurePath™ Test Sample Collection with Broom-type Detachable Head Device.

1. Collect
   Insert the Rover’s Cervix-brush® into the endocervical canal. Rotate brush five times in a clockwise direction.

2. Drop
   Use the interior rim of the BD SurePath™ Collection vial to pull off the head of the broom-like device into the large opening in the collection vial. DO NOT insert collection device head into the smaller opening in the vial.

3. Send
   Place the cap on the vial and tighten. Send the BD SurePath™ vial to the lab for processing.

**Option 2**
BD SurePath™ Test Sample Collection with Combination Brush/Plastic Spatula Detachable Head Device.

1A. Collect
   Insert the contoured end of the Pap Perfect® Plastic spatula and rotate 360° around the entire endocervix.

2A. Drop
   Use the interior rim of the large opening in the BD SurePath™ Collection vial to insert the head of the spatula so that the break point is above the top of the light blue vial and the head is below the insert. Blend the device back and forth until the device breaks. DO NOT insert collection device head into the smaller opening in the vial.

3A. Next
   Place cap on vial; do not tighten cap until Step 3B. Send: Go to CytoBrush® Plus GT Step #18. Collect.

1B. Collect
   Insert Cervix-brush® Plus GT into the endocervix until only the bottom-most bristles are exposed at the os. Slightly rotate ¼ to ½ turn in one direction. To reduce unnecessary blending, do not over-rotate brush.

2B. Drop
   Use the interior rim of the large opening in the BD SurePath™ Collection vial to insert the head of the brush so that the break point is above the top of the light blue vial and the head is below the insert. Blend the device back and forth until the device breaks. DO NOT insert collection device head into the smaller opening in the vial.

3B. Send
   Place the cap on the vial and tighten. Send the BD SurePath™ vial to the lab for processing.

**Alternative Methods to Detach Heads of Collection Devices:**

**Two-Hand ‘SNAP’**
Do not touch the head of the device while detaching.

**Cap-Assisted ‘SNAP’**
Care must be taken to avoid splashing and/or contamination of the head(s) of the device(s).

---

*See Rover’s Cervix-brush® product insert for complete Directions of Use.
*See BD SurePath™ Sample Collection Kit product insert for complete Directions of Use. CeriX-brush is a product and registered trademark of Rover’s B.V. Cya. The Netherlands. BD SurePath™ Sample Collection Kit is manufactured by Medacert, a Cooper Surgical Company, Tornall, CT.

CeriX-brush is a trademark of Rover’s Medical Devices, B.V.
CytoBrush and Pap Perfect are trademarks of Cooper Surgical, Inc. BD, BD Logo and all other trademarks are property of Becton, Dickinson and Company. © 2014 BD 855-035000-00 REV E 06/14

---

BD
Helping all people live healthy lives

---

Central East
Regional Cancer Program
in partnership with Cancer Care Ontario

PAP TEST LEARNING MODULE FOR HEALTH CARE PROVIDERS | CHAPTER 9 | PAGE 6
Video Link

To view the LifeLabs Surepath video, click here.

The Vaginal Vault Procedure: Liquid Based Cytology

To collect a vaginal vault specimen, insert the broom or spatula to the top of the vagina and rotate five times in a clockwise direction.

How to Document a Pap Test

Below are two examples of how to document a Pap test: O= Objective, A= Assessment, P= Plan

Example #1

O: External genitalia: no noted lesions or rash.
   Cervix: midline; small ectropion, small amount of thick white mucousy discharge from multip os.
A: Rule out cervical pathology.
P: Pap test performed; well tolerated. Will advise of abnormal results.

Example #2

O: External genitalia: 2mm flesh coloured discrete circular papule to left labia majora; no tenderness on palpation; no discharge. Cervix: posterior position, but os easily maintained in midline position within opened speculum; small amount fresh bleeding upon rotation of cervix broom. Adnexa: negative cervical motion tenderness; negative palpable lesion to either fornix
A: Rule out cervical pathology
P: Pap test performed; well tolerated. Client aware she may experience slight spotting post procedure. Will advise of abnormal results. Advised patient to monitor papule for any changes in size or discomfort and report same to HCP.

Chapter 9 Self-Test

1. Name 4 ideal conditions for taking a Pap test.
2. How do you sample the cervix with a broom?
References
