Pap test

A Pap test, or Papanicolaou test, is a procedure that removes a small sample of cells from the cervix. Cells are looked at under a microscope to see if they are normal or abnormal.

Why a Pap test is done

A Pap test is mainly used to:

- screen for and help diagnose precancerous conditions of the cervix and cervical cancer
- help diagnose precancerous conditions of the vagina and vaginal cancer
- diagnose infection and inflammation in the lower female reproductive tract

Pap tests are also done to follow up after an abnormal Pap test or to monitor precancerous conditions. They are used to check for abnormal cell changes or to see if cancer comes back (recurs) after treatment.

Find out more about cervical cancer screening.

How to prepare for a Pap test

Try to avoid having a Pap test during menstruation, or when you have your period. For best results, the test should be done in the middle of your cycle, 10–20 days after the first day of your menstrual period. Talk to your doctor or nurse if your appointment falls during your period. If your period is light, it may be possible to do the Pap test.

Avoid having sexual intercourse for 24 hours before the test. Do not use a vaginal douche, vaginal medicines, tampons or contraceptive (spermicidal) creams, foams or gels (except as directed by your doctor) for 48 hours before the test. These products can wash away or hide abnormal cells.

Avoid having the test during treatment for any cervical or vaginal infection. Wait 2 weeks after treatment has ended.

Try to empty your bladder right before the Pap test. A full bladder may make having the test uncomfortable.

How a Pap test is done

A Pap test may be done as part of a checkup or during a pelvic, or gynecologic, exam. A pelvic exam is done to make sure the pelvic organs are normal and to check for infections. Find out more about pelvic exam.

A Pap test is usually done in a doctor's or nurse's office or in a clinic. It only takes a few minutes to do a Pap test. There may be some discomfort, pressure or cramping during the procedure, but it is not usually painful.

To do a Pap test, the doctor or nurse gently places a speculum into the vagina. A speculum is a clear plastic or metal device. It separates the walls of the vagina so the doctor can see the upper part of the vagina and cervix.

The doctor or nurse uses a small stick, or spatula, to gently scrape the surface of the cervix to pick up cells. In some cases, a special brush (called a cytobrush or cytobroom) is used to collect cells from the inner part of the cervix, which leads into the uterus. Samples of tissues from the vagina can also be taken during a Pap test.

After collecting the cells, the doctor or nurse smears them onto a glass slide or places them in a container filled with a special liquid (called a liquid-based Pap test). The liquid containing the sample of cells may also be used to test for HPV. If the cells are smeared onto a glass slide, they are treated with a special solution called a fixative. The fixative preserves the appearance of the cells. The sample is sent to a lab to be processed so it can then be examined under a microscope.

You may have some light vaginal bleeding for 1–2 days after a Pap test. It may take 2–8 weeks for a Pap test result to come back from the lab.

What the results mean

Sometimes the sample is not good enough to give a clear result. This can happen if there is too much blood, not enough cells or the fixative did not preserve the cells well. Your doctor or nurse will let you know if the test has to be repeated.

When there is a good sample, labs in Canada use the Bethesda system to report Pap test results. In this system, a Pap test result may be described as normal (also called negative) or abnormal.

Normal

A normal, or negative, result means that there were enough cells in the sample and no abnormal or cancerous cells were found. A normal Pap test report may also note if non-cancerous, or benign, conditions are present, such as common infections or inflammation.

Abnormal

Abnormal cells in the cervix or vagina may be classified based on how different they look from normal cells. How abnormal they are may be described as mild to severe. Abnormal cells in the cervix are also described using the Bethesda reporting system, which gives information about the type of cell change found.

Abnormal results don't necessarily mean there is a precancerous condition or cancer. Some abnormal cells return to normal on their own. Other abnormal cells or precancerous changes in the cervix or vagina may develop into cancer over time if they aren't treated. This includes:

- squamous cell carcinoma (SCC)
- adenocarcinoma
- other types of cancer

Find out more about abnormal Pap test results and human papillomavirus (HPV).

What happens if the result is abnormal

If the result of a Pap test is abnormal, your doctor will decide if you need to have follow-up tests, treatment or both. Some changes or abnormalities may need to be treated, depending on how severe they are.

Follow-up options include another Pap test or a colposcopy (a procedure that uses a lighted magnifying instrument, called a colposcope, to examine the vulva, vagina and cervix).

Risks with a Pap test

Screening tests, including the Pap test, have a risk of giving misleading results.

A **false-negative result** means that the test doesn't find cancer or abnormal cells even though they are present. This may occur if the sample doesn't have enough tissue or cells. It can also happen when abnormal cells in the sample are missed.

A **false-positive result** means that the test shows abnormal cells even though they are not present. This means that something looked like a precancerous condition, but it actually isn't. A false-positive result may lead to unnecessary follow-up tests, procedures and anxiety.

Abnormal Pap test results

After cells or tissues are collected from the cervix during a Pap test or biopsy, a pathologist examines the sample to look for changes or abnormalities such as cancer. If there are no abnormal cells, the result is reported as normal, or negative. An abnormal Pap test means that there have been some changes to the cells lining the cervix.

Infection with the human papillomavirus (HPV) is the most common cause of changes to cervical cells. Sometimes cells infected with HPV can become precancerous. Changes to the cervix may also be caused by:

- viral, bacterial or yeast infection
- inflammation
- non-cancerous growths such as polyps or cysts

In some cases, an abnormal Pap test result means that a precancerous condition or cancer is present. Learn more about precancerous conditions of the cervix.

Reporting Pap test results

The Bethesda system is most commonly used to report Pap test results. It uses a standard set of terms to report changes to different types of cells.

Pap test results may show changes to squamous cells or glandular cells. It may also identify other types of cancer, such as sarcoma or melanoma.

Abnormal squamous cell Pap test results

Squamous intraepithelial lesion (SIL) is used to describe changes to squamous cells. SIL is described as low grade (least severe) or high grade (most severe).

Bethesda system result	Description
atypical squamous cells (ASC)	Cells don't look normal.
atypical squamous cells – undetermined significance (ASC-US)	Some cells don't look completely normal. It's not clear what the cell changes mean.

low-grade squamous intraepithelial lesion (LSIL)	Cells don't look normal, but they usually aren't precancerous. LSIL is considered a mild abnormality.
atypical squamous cells – cannot rule out high-grade squamous intraepithelial lesion (ASC-H)	Cells don't look normal. It's not clear what the cell changes mean, and a high-grade lesion can't be ruled out. The abnormal change may be precancerous.
high-grade squamous intraepithelial lesion (HSIL)	There are abnormal, or precancerous, cells present. The size and shape of the cells have changed. The cells may develop into cancer if they aren't treated.
squamous cell carcinoma (SCC)	There are cancerous cells present.

Abnormal glandular cell Pap test results

Changes to glandular cells are also included in the Bethesda system.

Bethesda system result	Description
atypical glandular cells (AGC) • AGC – not otherwise specified (NOS) • AGC – favour neoplasia (N) • adenocarcinoma in situ (AIS)	Cells don't look normal. Abnormal cells may be from the cervix or uterus.
adenocarcinoma	There are cancerous cells present.

Follow-up options for abnormal results

If a Pap test is normal, or negative, you should continue to have regular Pap tests according to your province's or territory's screening guideline.

Follow-up for an abnormal Pap test can vary. Depending on how severe they are, some changes or abnormalities may not need to be treated. Some abnormal cells change back to normal on their own. Other abnormal cells or precancerous changes to cells may develop into cancer if they aren't treated.

Follow-up and treatment options for abnormal Pap test results, based on the Bethesda system are described below.

Atypical squamous cells – undetermined significance (ASC-US)

Follow-up and treatment options for ASC-US include:

- Pap test
- HPV test
- colposcopy (a procedure that uses a lighted magnifying instrument, called a colposcope, to examine the vulva, vagina and cervix)
- biopsy

A Pap test may be done again at 6 and 12 months to see if the abnormal cells change back to normal on their own. HPV tests are usually only given to women 30 years of age and older. If Pap tests continue to show abnormal changes or the HPV test shows that a high-risk type of HPV is present, then a colposcopy is done. If an abnormal area is found during the colposcopy, then a biopsy may also be done.

Low-grade squamous intraepithelial lesion (LSIL)

Follow-up and treatment options for LSIL include:

- Pap test
- HPV test – only given to women 50 years of age and older
- colposcopy
- endocervical curettage
- biopsy (may be done if colposcopy or endocervical curettage is abnormal)

A Pap test may be repeated at 6 and 12 months to see if the abnormal cells change back to normal on their own. If Pap tests continue to show abnormal changes or an HPV test shows that a high-risk type of HPV is present, then a colposcopy, an endocervical curettage and a biopsy may be done.

ASC – cannot rule out high-grade squamous intraepithelial lesion (ASC-H)

Follow-up and treatment options for ASC-H include:

- colposcopy
- endocervical curettage
- biopsy (may be done if colposcopy or endocervical curettage is abnormal)

A colposcopy is done following an ASC-H result. An endocervical curettage and a biopsy may be done during the colposcopy.

High-grade squamous intraepithelial lesion (HSIL)

Follow-up and treatment options for HSIL include:

- colposcopy
- biopsy

- endocervical curettage
- loop electrosurgical excision procedure (LEEP) or other type of cone biopsy

A colposcopy is done following an HSIL result. An endocervical curettage and a biopsy may be done during the colposcopy.

LEEP or another type of cone biopsy may be done depending on the results of the colposcopy, endocervical curettage or biopsy. This procedure is used to remove abnormal cells and tissue from the cervix.

If the colposcopy is normal (this rarely occurs with an HSIL Pap test result), a woman will have a repeat colposcopy to look for abnormal changes.

Squamous cell carcinoma

Follow-up and treatment options for squamous cell carcinoma (SCC) include:

- colposcopy
- biopsy
- endocervical curettage
- loop electrosurgical excision procedure (LEEP) or other type of cone biopsy

A colposcopy, an endocervical curettage and a biopsy are usually done following an SCC result.

LEEP or another type of cone biopsy may be done to look for cancer if there is no abnormality found with the colposcopy, endocervical curettage or biopsy. This procedure is used to remove abnormal cells and tissue from the cervix.

Atypical glandular cytology (AGC) and adenocarcinoma

Possible follow-up and treatment of AGC and adenocarcinoma include:

- colposcopy
- endocervical curettage
- endometrial biopsy
- loop electrosurgical excision procedure (LEEP) or other type of cone biopsy
- HPV test

A colposcopy and an endocervical curettage are usually done following an AGC or adenocarcinoma result. LEEP or another type of cone biopsy is used to remove abnormal cells and tissue from the cervix. A woman with AGC or adenocarcinoma may also have an HPV test to see if a high-risk type of HPV is present.

Women with AGC-N often have LEEP or another type of cone biopsy to look for cancer if there is no abnormality found with the colposcopy, endocervical curettage or endometrial biopsy.

Pregnant women with abnormal Pap test results

Women who are pregnant and have an abnormal Pap test result may still have colposcopy. If the doctor needs to take a biopsy, this is usually delayed until after the woman has given birth because there is a small chance that taking a biopsy sample can cause bleeding.

Follow-up procedures

Women with abnormal Pap test results may have one or more of the following procedures.

Human papillomavirus (HPV) test is used to test the cervical cells to see if they have the DNA of certain types of HPV. These high-risk types of HPV are more likely to cause cells to become cancerous. Find out more about HPV test.

Colposcopy uses a colposcope (a lighted magnifying instrument) to examine the vulva, vagina and cervix. During a colposcopy, the doctor may also remove cells or tissue so they can be examined under a microscope (called a biopsy).

Biopsy removes tissues or cells from the body so they can be examined under a microscope to check for cancer. A biopsy can be done during a colposcopy. Find out more about biopsy.

Endocervical curettage is a type of biopsy. It's a procedure that uses a special tool, called a curette or brush, to remove cells from the endocervical canal. It can be used to collect cells so they can be examined under a microscope to check for cancer. An endocervical curettage can be done at the same time as a colposcopy.

Endometrial biopsy is a procedure that uses a special tool, called a pipelle, to remove cells from the lining of the inside of the uterus (called the endometrium) so they can be examined under a microscope to check for cancer. It can be done during a colposcopy.

Cone biopsy removes a cone-shaped piece of tissue from the cervix. It can be done using a surgical scalpel, LEEP or a laser. The doctor sends the removed tissue to a lab to be examined under a microscope. Find out more about cone biopsy.

Loop electrosurgical excision procedure (LEEP) is a type of cone biopsy. It uses a thin wire heated by an electrical current to remove tissue from the cervix. Find out more about LEEP.