

Abnormal Pap Results: What they mean and how to manage them

(taken from the National Cancer Institute-Cancer Facts 5.16)

1. How are the results of a Pap test reported?

Most laboratories in the United States use a standard set of terms called the Bethesda System to report test results. Under the Bethesda System, Pap test samples that have no cell abnormalities are reported as "negative for intraepithelial lesion or malignancy." Samples with cell abnormalities are divided into the following categories:

- ASC—atypical squamous cells. Squamous cells are the thin flat cells that form the surface of the cervix. The Bethesda System divides this category into two groups:
 1. ASC-US—atypical squamous cells of undetermined significance. The squamous cells do not appear completely normal, but doctors are uncertain about what the cell changes mean. Sometimes the changes are related to HPV infection. ASC-US are considered mild abnormalities.
 2. ASC-H—atypical squamous cells cannot exclude a high-grade squamous intraepithelial lesion. The cells do not appear normal, but doctors are uncertain about what the cell changes mean. ASC-H may be at higher risk of being precancerous.
- AGC—atypical glandular cells. Glandular cells are mucus-producing cells found in the endocervical canal (opening in the center of the cervix) or in the lining of the uterus. The glandular cells do not appear normal, but doctors are uncertain about what the cell changes mean.
- AIS—endocervical adenocarcinoma in situ. Precancerous cells are found in the glandular tissue.
- LSIL—low-grade squamous intraepithelial lesion. Low-grade means there are early changes in the size and shape of cells. The word lesion refers to an area of abnormal tissue. Intraepithelial refers to the layer of cells that forms the surface of the cervix. LSILs are considered mild abnormalities caused by HPV infection.
- HSIL—high-grade squamous intraepithelial lesion. High-grade means that there are more marked changes in the size and shape of the abnormal (precancerous) cells, meaning that the cells look very different from normal cells. HSILs are more severe abnormalities and have a higher likelihood of progressing to invasive cancer.

2. What do abnormal results mean?

A physician may simply describe Pap test results to a patient as "abnormal." Cells on the surface of the cervix sometimes appear abnormal but are very rarely cancerous. It is important to remember that abnormal conditions do not always become cancerous, and some conditions are more likely to lead to cancer than others. A woman may want to ask her doctor for specific information about her Pap test result and what the result means. There are several terms that may be used to describe abnormal results.

- Dysplasia is a term used to describe abnormal cells. Dysplasia is not cancer, although it may develop into very early cancer of the cervix. The cells look abnormal under the microscope, but they do not invade nearby healthy tissue. There are four degrees of dysplasia, classified as mild, moderate, severe, or carcinoma in situ, depending on how abnormal the cells appear under the microscope. Carcinoma in situ means that cancer is present only in the layer of cells on the surface of the cervix, and has not spread to nearby tissues.
- Squamous intraepithelial lesion (SIL) is another term that is used to describe abnormal changes in the cells on the surface of the cervix. The word squamous describes thin, flat cells that form the outer surface of the cervix. The word lesion refers to abnormal tissue. An intraepithelial lesion means that the abnormal cells are present only in the layer of cells on the surface of the cervix. A doctor may describe SIL as being low-grade (early changes in the size, shape, and number of cells) or high-grade (precancerous cells that look very different from normal cells).

- **Cervical intraepithelial neoplasia (CIN)** is another term that is sometimes used to describe abnormal tissue findings. Neoplasia means an abnormal growth of cells. Intraepithelial refers to the layer of cells that form the surface of the cervix. The term CIN, along with a number (1 to 3), describes how much of the thickness of the lining of the cervix contains abnormal cells.
- **Atypical squamous cells** are findings that are unclear, and not a definite abnormality.

Cervical cancer, or invasive cervical cancer, occurs when abnormal cells spread deeper into the cervix or to other tissues or organs.

3. What if Pap test results are abnormal?

If the Pap test shows an ambiguous or minor abnormality, the physician may repeat the test to determine whether further followup is needed. Many times, cell changes in the cervix go away without treatment. In some cases, doctors may prescribe estrogen cream for women who have ASC-US and are near or past menopause. Because these cell changes are often caused by low hormone levels, applying an estrogen cream to the cervix for a few weeks can usually help to clarify the cause of the cell changes.

If the Pap test shows a finding of ASC-H, LSIL, or HSIL, the physician may perform a colposcopy using an instrument much like a microscope (called a colposcope) to examine the vagina and the cervix. The colposcope does not enter the body. During a colposcopy, the physician may coat the cervix with a dilute vinegar solution that causes abnormal areas to turn white. The physician may also perform a biopsy (a biopsy is the removal of a small piece of tissue for study in a lab).

The physician may also perform endocervical curettage. This test involves scraping cells from inside the endocervical canal with a small spoon-shaped tool called a curette. The doctor may also remove a small piece of cervical tissue for examination. This procedure is called a biopsy. The cells or tissue are sent to a lab for study under a microscope.

If the lab finds abnormal cells that have a high chance of becoming cancer, further treatment is needed. Without treatment, these cells may turn into invasive cancer. Treatment options include the following:

- **LEEP** (loop electrosurgical excision procedure) is surgery that uses an electrical current which is passed through a thin wire loop to act as a knife.
- **Cryotherapy** destroys abnormal tissue by freezing it.
- **Laser therapy** is the use of a narrow beam of intense light to destroy or remove abnormal cells.
- **Conization** removes a cone-shaped piece of tissue using a knife, a laser, or the LEEP technique.

4. How do terms for Pap test abnormalities compare, and which tests and treatment options may be appropriate?

Pap Test Result	Abbreviation	Also Known As	Tests and Treatments May Include
Atypical squamous cells-undetermined significance	ASC-US		HPV testing Repeat Pap test Colposcopy and biopsy Estrogen cream
Atypical squamous cells-cannot exclude HSIL	ASC-H		Colposcopy and biopsy
Atypical glandular cells	AGC		Colposcopy and biopsy and/or endocervical <u>curettage</u>
Endocervical <u>adenocarcinoma</u> in situ	AIS		Colposcopy and biopsy and/or endocervical <u>curettage</u>
Low-grade squamous intraepithelial lesion	LSIL	Mild dysplasia or Cervical intraepithelial neoplasia-1	Colposcopy and biopsy

		(CIN-1)	
<u>High-grade squamous intraepithelial lesion</u>	HSIL	Moderate dysplasia, Severe dysplasia, CIN-2, CIN-3, or Carcinoma in situ (CIS)	Colposcopy and biopsy and/or endocervical curettage Further treatment with LEEP, cryotherapy, laser <u>therapy</u> , conization, or hysterectomy

5. How are human papillomaviruses (HPVs) associated with the development of cervical cancer?

Human papillomaviruses (HPVs) are a group of more than 100 viruses. Some types of HPV cause the common warts that grow on hands and feet. Some HPVs are sexually transmitted and cause wart-like growths on the genitals, but these types do not lead to cancer. More than a dozen other sexually transmitted HPVs have been linked to cervical cancer.

HPV infection is the primary risk factor for cervical cancer. However, although HPV infection is very common, only a very small percentage of women with untreated HPV infections develop cervical cancer.