Patient education: Follow-up of low-grade abnormal Pap tests (Beyond the Basics)

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Literature review current through: **Aug 2025.**
This topic last updated: **May 01, 2025.**

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INTRODUCTION

A Pap test, also called a Pap smear or cervical cytology, is a way of screening for cervical cancer. Cervical cancer screening with Pap and/or human papillomavirus (HPV) tests is recommended starting between the ages of 21 and 25 years. Any person with a cervix should be screened, regardless of gender identity, sexual orientation, or sexual activity. (See "Patient education: Cervical cancer screening (Beyond the Basics)".)

The outer surface of the cervix and vagina are lined with cells called squamous cells. The canal of the cervix is lined with cells called glandular cells. When results of an abnormal Pap test are reported (meaning changes or abnormalities are seen in the cells), the following terminology is typically used, in order of severity:

- Atypical squamous cells of undetermined significance (ASC-US)
- Low-grade squamous intraepithelial lesions (LSIL)
- Atypical squamous cells, cannot exclude a high-grade squamous intraepithelial lesion (ASC-H)
- High-grade squamous intraepithelial lesions (HSIL)
- Atypical glandular cells (AGC)

This article will focus on the first three categories (ASC-US, LSIL, and ASC-H). If your Pap test shows one of these abnormalities, you may need further testing; this is because some people with these findings have a precancerous lesion of the cervix.

A person's risk of developing precancer or cancer is determined by their current HPV and Pap test results as well as past screening results; all of this information together provides your "risk estimate." If two people have the same current screening results but have had different test results in the past, their risk estimate will be different, and doctors might make different recommendations for management.

The management of HSIL and AGC is discussed separately. (See "Patient education: Follow-up of high-grade or glandular cell abnormal Pap tests (Beyond the Basics)".)

ATYPICAL SQUAMOUS CELLS (ASC)

The ASC designation is subdivided into two categories: "atypical squamous cells of undetermined significance" (ASC-US) and "atypical squamous cells, cannot exclude a high-grade squamous intraepithelial lesion" (ASC-H).

Atypical squamous cells of undetermined significance (ASC-US) — ASC-US Pap tests are managed differently in people under 25 than in those age 25 and older; this is discussed more below. ASC-US Pap tests are also managed differently based on results of human papillomavirus (HPV) testing. Some people may need follow-up with a colposcopy. Colposcopy is an examination of the cervix using a type of microscope, which is done during a pelvic examination in a clinician's office. Colposcopy is discussed in more detail separately. (See "Patient education: Colposcopy (Beyond the Basics)" and "Patient education: Management of a cervical biopsy with precancerous cells (Beyond the Basics)".)

Age 25 or older — If you are age 25 or older and had an ASC-US Pap test, your health care provider can talk to you about what to do next. You will likely have two options:

- **HPV testing** – If you are 25 or older and have not already been tested for HPV infection, this is the preferred next step for an ASC-US result. HPV infection is the cause of nearly all cases of cervical cancer. There are many strains of HPV, some of which can infect the cervix, and only some of these are high risk for causing cervical precancer or cancer. HPV testing can look specifically for these high-risk strains (HPV 16, 18, and sometimes others); this is called "genotyping." HPV testing is often done at the same time as a Pap test. HPV testing is described in detail separately. (See "Patient education: Cervical cancer screening (Beyond the Basics)", section on 'HPV test'.)
  - If you test **positive** for HPV, your health care provider will talk to you about next steps. In many cases, they will recommend a colposcopy to learn more. This decision is based on what type of high-risk HPV you have, and in some cases, what the results were from any prior testing.
  - If you test **negative** for HPV, you are not likely to have cervical precancer, and you should have repeat HPV testing with or without a Pap test in three years. In most cases, the ASC-US will resolve during this time.
- **Repeat Pap testing in one year** – This is also an acceptable option. If this test is normal, you can return to regular screening. If an abnormality is found, then you will need to have a colposcopy.

Age 21 to 24 — HPV testing is not a usual part of screening for cervical cancer for people in this age group. This is because HPV infection is common in young people, but often goes away and usually does not cause cervical precancer or cancer. (See "Patient education: Cervical cancer screening (Beyond the Basics)", section on 'Age 21 to 29'.)

If you are age 21 to 24 and had an ASC-US Pap test, there are two options:

- **Repeat Pap testing in one year** – This is generally the preferred option for people age 21 to 24.
- **HPV testing** – This is also an option. If the HPV test is negative, you can return to your regular screening schedule. If the HPV test is positive, you should repeat the Pap test in one year.

Atypical squamous cells, cannot exclude a high-grade squamous intraepithelial lesion (ASC-H) — For ASC-H, the risk of a high-grade precancerous lesion or cervical cancer is higher than ASC-US [1,2].

If you had an ASC-H Pap test, regardless of your age, the next step should be a colposcopy for further evaluation. (See "Patient education: Colposcopy (Beyond the Basics)".)

In some cases, the clinician will advise immediate (ie, expedited) treatment at the same visit as the colposcopy with a "loop electrosurgical excision procedure" (also called a LEEP or "large loop excision of the transformation zone" [LLETZ]). This involves removing the area of the cervix where precancers and cancers usually develop (called the transformation zone). This provides a larger amount of tissue to analyze for precancer or cancer; it also treats cancer or precancer (if

either is present) by removing affected cells. (See "Patient education: Management of a cervical biopsy with precancerous cells (Beyond the Basics)", section on 'Excision'.)

Immediate (expedited) treatment is not the preferred option for people age 21 to 24 because even high-grade lesions often go away without treatment in young people, and there are concerns that treatment may increase the risk of complications in a future pregnancy. Therefore, treating based just on colposcopy (without waiting for biopsy results) is not typically done in this age group. Also, immediate treatment is not an option for people who are pregnant.

LOW-GRADE SQUAMOUS INTRAEPITHELIAL LESION (LSIL)

An LSIL Pap test shows mild cellular changes. As with atypical squamous cells of undetermined significance (ASC-US), an LSIL Pap test is evaluated differently depending on your age and human papillomavirus (HPV) status.

If you are **age 25 or older**, had an ASC-US Pap test, and:

- If you test **positive** for HPV, your health care provider will talk to you about next steps. In many cases, they will recommend a colposcopy to learn more. This decision is based on what type of high-risk HPV you have, and in some cases, what the results were from any prior testing.
- If you test **negative** for HPV, you should have HPV testing with or without a Pap test in one year.

If you are **age 21 to 24**, HPV testing is not a usual part of screening for cervical cancer (as noted above). If you are in this age group, an LSIL Pap test should be followed up with another Pap test in one year.

If you have an LSIL Pap test result, but a few cells are found to be suspicious for a high-grade squamous intraepithelial lesion (HSIL), follow-up should be the same as for people with an HSIL result. In most cases, this involves a colposcopy. This is discussed in detail separately. (See "Patient education: Follow-up of high-grade or glandular cell abnormal Pap tests (Beyond the Basics)".)

Management after colposcopy is also discussed separately. (See "Patient education: Management of a cervical biopsy with precancerous cells (Beyond the Basics)".)

SPECIAL CIRCUMSTANCES

During pregnancy — For people who have an abnormal Pap test while they are pregnant, the next steps are based on ensuring the appropriate evaluation while avoiding pregnancy-related complications. In general, pregnant patients are managed in the same way as those who are not pregnant. However, if colposcopy needs to be performed, it can sometimes be delayed until after pregnancy (usually four weeks after delivery). If colposcopy is done, cervical biopsy should be done only if a lesion is concerning for cancer. An endocervical sample (taken from the inner cervix) is not performed in pregnancy.

After menopause — People who have been through menopause are managed the same way as those who still have monthly periods.

In general, according to guidelines from several professional medical societies, cervical cancer screening is stopped after age 65 in people with a history of normal testing. However, screening beyond age 65 is recommended in some circumstances, including in people who have had past abnormal test results. (See "Patient education: Cervical cancer screening (Beyond the Basics)", section on 'After age 65'.)

WHERE TO GET MORE INFORMATION

Your health care provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our web site (www.uptodate.com/patients). Related topics for patients, as well as selected articles written for health care professionals, are also available. Some of the most relevant are listed below.

Patient level information — UpToDate offers two types of patient education materials.

The Basics — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

Patient education: Cervical cancer screening tests (The Basics)
Patient education: Cervical cancer (The Basics)

Beyond the Basics — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

Patient education: Follow-up of high-grade or glandular cell abnormal Pap tests (Beyond the Basics)
Patient education: Cervical cancer screening (Beyond the Basics)
Patient education: Management of a cervical biopsy with precancerous cells (Beyond the Basics)

Professional level information — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

Cervical adenocarcinoma in situ
Cervical cancer in pregnancy
Cervical cancer screening tests: Techniques for cervical cytology and human papillomavirus testing
Cervical cytology: Evaluation of atypical and malignant glandular cells
Cervical cancer screening: Risk assessment, evaluation, and management after screening
Cervical intraepithelial neoplasia: Terminology, incidence, pathogenesis, and prevention
Cervical intraepithelial neoplasia: Management
Preinvasive and invasive cervical neoplasia in patients with HIV infection
Cervical cancer screening: Benefits, harms, screening methods, and patient risk groups
Cervical cancer screening in resource-abundant settings: How to screen average-risk patients

The following organizations also provide reliable health information:

- American Society for Colposcopy and Cervical Pathology (www.asccp.org)
- American College of Obstetricians and Gynecologists (www.acog.org)
- National Cancer Institute (www.cancer.gov)
- American Cancer Society (www.cancer.org)
- National Library of Medicine (www.medlineplus.gov/healthtopics.html)

- Centers for Disease Control and Prevention (www.cdc.gov/)

ACKNOWLEDGMENT

The UpToDate editorial staff acknowledges Christine Holschneider, MD, who contributed to an earlier version of this topic review.

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2. Egemen D, Cheung LC, Chen X, et al. Risk Estimates Supporting the 2019 ASCCP Risk-Based Management Consensus Guidelines. J Low Genit Tract Dis 2020; 24:132.

Topic 8391 Version 32.0

Contributor Disclosures

Annekathryn Goodman, MD, MPH, MS, MA No relevant financial relationship(s) with ineligible companies to disclose. **Barbara Goff, MD** No relevant financial relationship(s) with ineligible companies to disclose. **Alana Chakrabarti, MD, FACOG** No relevant financial relationship(s) with ineligible companies to disclose.

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