

Cervical and Hpv Associated Cancer

A plain-English guide for you and your family

WHAT IS HAPPENING

Your cervix is the doorway at the bottom of your uterus, where the lining naturally sheds old cells and grows fresh ones every month. Your immune system usually finds and clears HPV infections within one to two years, so most people who get HPV never get cancer. But high-risk HPV types—especially 16 and 18—can sometimes hide inside cervical cells and slip their DNA into the cell's instruction manual. When that happens, the cell forgets how to stop dividing. At first you feel nothing, because the rogue cells are only in the surface layer. Over months or years, those cells pile up into a thick patch called dysplasia, and if still no one catches it, they push through the cervical lining and invade deeper tissue—that is cancer. Only then do you notice bleeding after sex, watery or bloody discharge, or a dull ache in your pelvis, because the tumor is tearing small blood vessels and crowding nearby nerves. None of these symptoms is the real problem; they are alarm bells that tissue is being destroyed faster than your body can patch it. The key is catching dysplasia before it invades, which is why Pap tests scrape a few cells off your cervix to check for changes, and HPV tests look for the virus itself. If we find dysplasia early, we can remove just that patch and you are cured. If we miss it and the cancer spreads to lymph nodes or lungs, treatment becomes much harder and the cure rate drops. The whole story starts with one virus breaking one rule—stop dividing when you should—and everything else follows from that.

What you might feel

- No symptoms at all (most common with early cervical changes)
- Abnormal Pap test or HPV test result
- Bleeding after sex (post-coital bleeding)
- Bleeding between periods or after menopause
- Unusual vaginal discharge (watery, bloody, or foul-smelling)
- Pelvic pain or pain deep in the pelvis during sex
- Pain or difficulty urinating, or blood in the urine
- Swelling in one or both legs

Call the doctor right away if...

- Heavy vaginal bleeding that does not stop or bleeding after menopause
- Severe pelvic or lower back pain that is new and does not go away
- Swelling in one or both legs, especially if sudden
- Trouble urinating, blood in the urine, or losing control of urine or stool
- Unexplained weight loss or feeling very tired all the time

What the care team will do

- Stop any active heavy vaginal bleeding by having the patient lie flat, measuring blood loss with pad counts, starting a large-bore IV, and notifying the provider immediately for possible vaginal packing or emergency radiation
- Assess pain level using a 0-to-10 scale every 2 to 4 hours and give scheduled opioids or NSAIDs (non-steroidal anti-inflammatory drugs like ibuprofen) as ordered, not just as-needed, for pelvic or bone pain
- Monitor urine output every shift and check for signs of hydronephrosis (kidney swelling) like flank pain, because cervical tumors can block the ureters (tubes from kidneys to bladder)
- Check both legs for swelling, warmth, redness, and measure calf circumference; report any asymmetry or new swelling to the provider for urgent Doppler ultrasound
- Provide emotional support and private time to discuss fears about cancer, fertility loss, and sexual health; offer referral to social work, chaplain, or cancer support groups
- Teach the patient and family about HPV transmission, the importance of vaccinating children and young adults, and that most HPV infections clear on their own without causing cancer
- Coordinate care between gynecologic oncology, radiation oncology, and medical oncology; ensure the patient understands appointments for staging scans (CT, MRI, PET), colposcopy, or cone biopsy before treatment starts
- Monitor for signs of infection (fever over 100.4°F, foul vaginal discharge, increased pelvic pain) especially after biopsy, LEEP, or cone procedure; give antibiotics as ordered and teach perineal hygiene

Medicines you may be given — and why

HPV vaccine (Gardasil 9)

This vaccine teaches your immune system to recognize and destroy HPV before it can infect cells. It contains empty shells that look like the real virus but carry no genetic material. When

these shells enter your body, your B cells (a type of white blood cell) learn their shape and make antibodies (proteins that stick to invaders). If real HPV later tries to enter, those antibodies already waiting in your blood and tissues grab it and mark it for destruction before it reaches the cells lining your cervix. The vaccine blocks nine types of HPV: the two that cause most cervical cancers (types 16 and 18) and seven others that cause warts or less common cancers.

Cisplatin

Cisplatin is a metal compound (made with platinum) that sneaks into cancer cells and then grabs onto DNA strands, tying them together so the cell can NOT copy its DNA or divide. When the cell tries to divide, it notices the damage and usually triggers its own death (a process called apoptosis). Cisplatin works best on cells that are actively growing and dividing, which is why it hits cancer hard. It is the backbone of chemoradiation for locally advanced cervical cancer and of chemotherapy for metastatic cervical cancer.

Bevacizumab

Bevacizumab is a lab-made antibody that blocks VEGF (vascular endothelial growth factor), a signal protein that tumors release to grow new blood vessels. Tumors need these new vessels to bring oxygen and nutrients as they grow. By binding to VEGF and keeping it from reaching its receptor on blood vessel cells, bevacizumab starves the tumor. Existing vessels may also become leaky or collapse. Bevacizumab is added to chemotherapy (cisplatin or other drugs) for recurrent, metastatic, or persistent cervical cancer to slow growth and improve survival.

Pembrolizumab

Pembrolizumab is a lab-made antibody that blocks PD-1, a brake protein on the surface of T cells (your killer immune cells). Some cancers trick T cells by displaying PD-L1, a protein that pushes the PD-1 brake and tells T cells to stay quiet. When pembrolizumab binds to PD-1, it blocks this shut-off signal, so T cells wake up, recognize the cancer, and attack it.

Pembrolizumab is used for recurrent or metastatic cervical cancer when the tumor tests positive for PD-L1 (meaning it uses this trick) or has high microsatellite instability (MSI-H) or mismatch repair deficiency (dMMR), which makes it more visible to the immune system.

Where this information comes from

- NCCN Clinical Practice Guidelines in Oncology: Cervical Cancer 2023
- CDC: HPV and Cancer
- American Cancer Society: Cervical Cancer
- ACOG Practice Bulletin: Cervical Cancer Screening

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