



STDS



Defention

- A sexually transmitted infection (STI) is a virus, bacteria, fungus, or parasite , people can get through sexual contact. Many STIs have no symptoms, so people can have an infection but not know it.

Epidemiology

More than 1 million STIs are acquired every day worldwide

Infection rates are similar in both women and men .

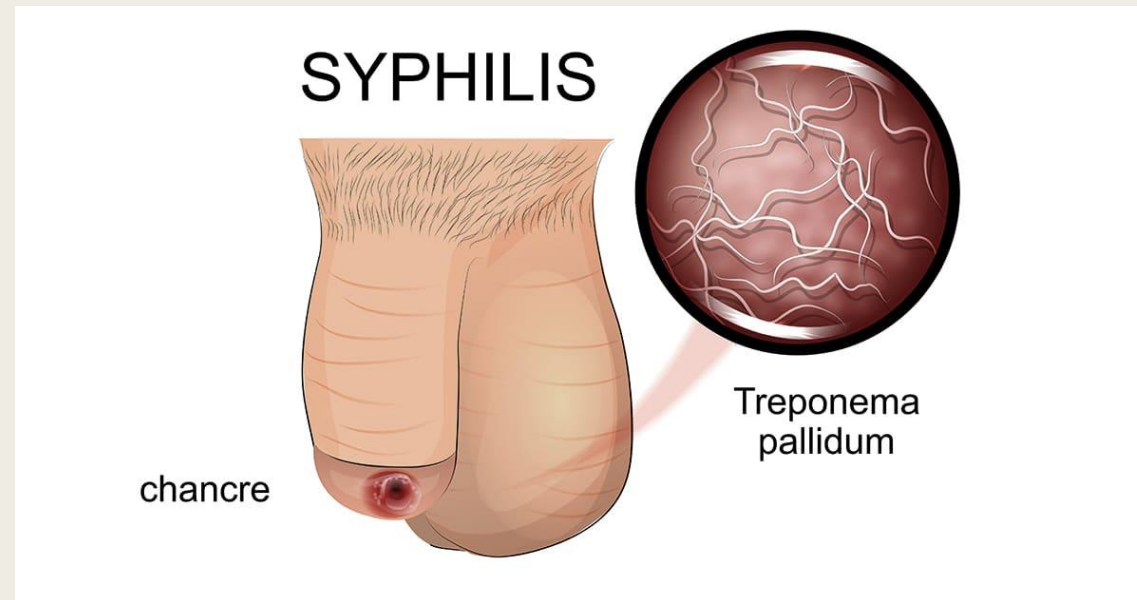
Symptoms

- The majority of STIs are Asymptomatic .
- The most common symptoms of STIs are pain in the suprapubic and genital area , urethral or vaginal discharge , and genital lesions.

SYPHILIS

Approximately 12 million new cases of syphilis infection are reported each year according to the WHO.

The incidence of syphilis is steadily increasing due to co-infection with HIV.



SYPHILIS

- a bacterial infection is caused by the spirochete bacterium *Treponema pallidum* which is transmitted through sexual intercourse , transplacental spread and via unscreened blood transfusions. The disease starts as a painless sore — typically on the genitals, rectum or mouth. Syphilis spreads from person to person via skin or mucous membrane contact with these sores.

- The cause of syphilis is a bacterium called *Treponema pallidum*. The most common way syphilis is spread is through contact with an infected person's sore during sexual activity. The bacteria enter the body through minor cuts or abrasions in the skin or mucous membranes. Syphilis is **contagious** during its primary and secondary stages, and sometimes in the early latent period.
- Less commonly, syphilis may spread through direct contact with an active lesion, such as during kissing. It can also be passed from mothers to their babies during pregnancy or childbirth.
- Syphilis can't be spread by using the same toilet, bathtub, clothing or eating utensils, or from doorknobs, swimming pools or hot tubs.
- Once cured, syphilis doesn't return on its own. However, you can become reinfected if you have contact with someone's syphilis sore.

Risk factors

- You face an increased risk of acquiring syphilis if you:
- Engage in unprotected sex
- Have sex with multiple partners
- Are a man who has sex with men
- Are infected with HIV, the virus that causes AIDS

- The clinical course of syphilis evolves through three phases , if patient is not treated syphilis will cause systemic damage .



primary phase is characterized by skin lesions (**chancres**) at the site where the spirochete penetrated



In the **secondary phase**, the clinical signs of disseminated disease appear, (e.g. **skin lesions** over the entire body, fever, headache). Symptoms resolve



- Late syphilis severely damages organs involved (e.g., **neurosyphilis**, cardiovascular syphilis) leading to various symptoms (e.g. **dementia** or **blindness**.)

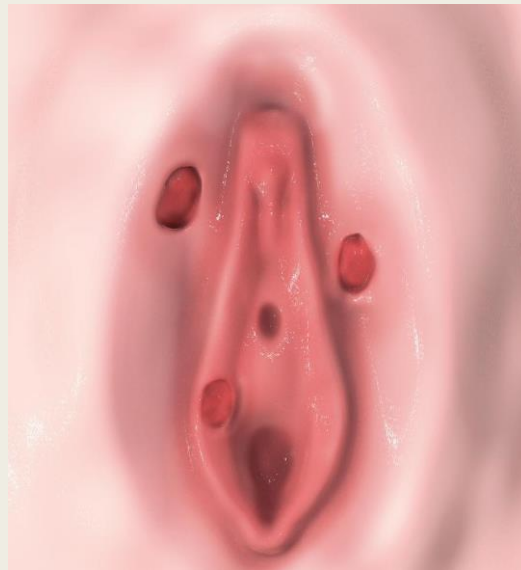
Primary syphilis ...

Classically, a painless genital ulcer develops 3–4 weeks after transmission via sexual intercourse.

The first sign of syphilis is a small sore, called a chancre. The sore appears at the spot where the bacteria entered your body. While most people infected with syphilis develop only one chancre, some people develop several of them. Many people who have syphilis don't notice the chancre because it's usually painless, and it may be hidden within the vagina or rectum. The chancre will heal on its own within three to six weeks.



Actas Dermosifiliogr. 2016;107:275-83



■ Secondary syphilis

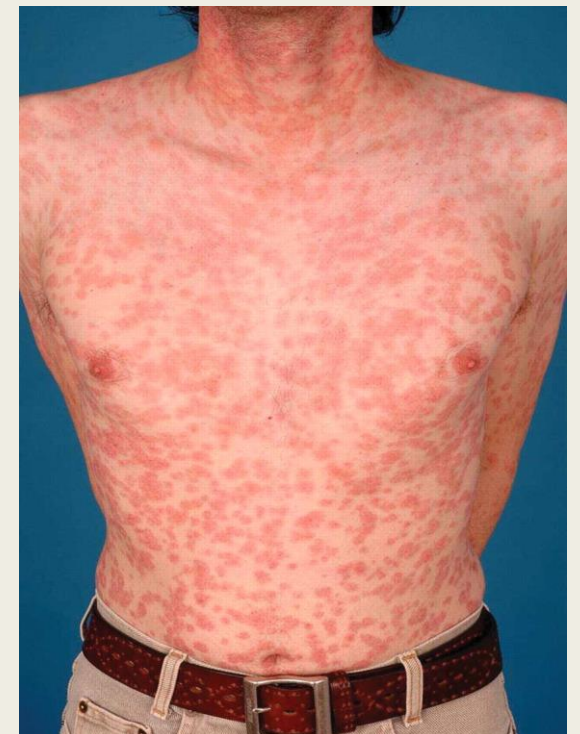
you may experience a rash that begins on your trunk but eventually covers your entire body — even the palms of your hands and the soles of your feet.

This rash is usually not itchy and may be accompanied by wartlike sores in your mouth or genital area. Some people also experience hair loss, muscle aches, a fever, a sore throat and swollen lymph nodes.

Early lesions are usually annular erythematous macules that fade to a greyish brown



Figure 13.17 Secondary syphilis.



- Latent syphilis

- the disease moves from the secondary stage to the hidden (latent) stage, when you have no symptoms. The latent stage can last for years. Signs and symptoms may never return, or the disease may progress to the third (tertiary) stage.

- **Tertiary syphilis**

- people infected with syphilis who don't get treatment will develop complications known as tertiary syphilis. In the late stage, the disease may damage the brain, nerves, eyes, heart, blood vessels, liver, bones and joints.

- **Neurosyphilis**

- At any stage, syphilis can spread and, among other damage, cause damage to the brain and nervous system and the eye.

- **Congenital syphilis**

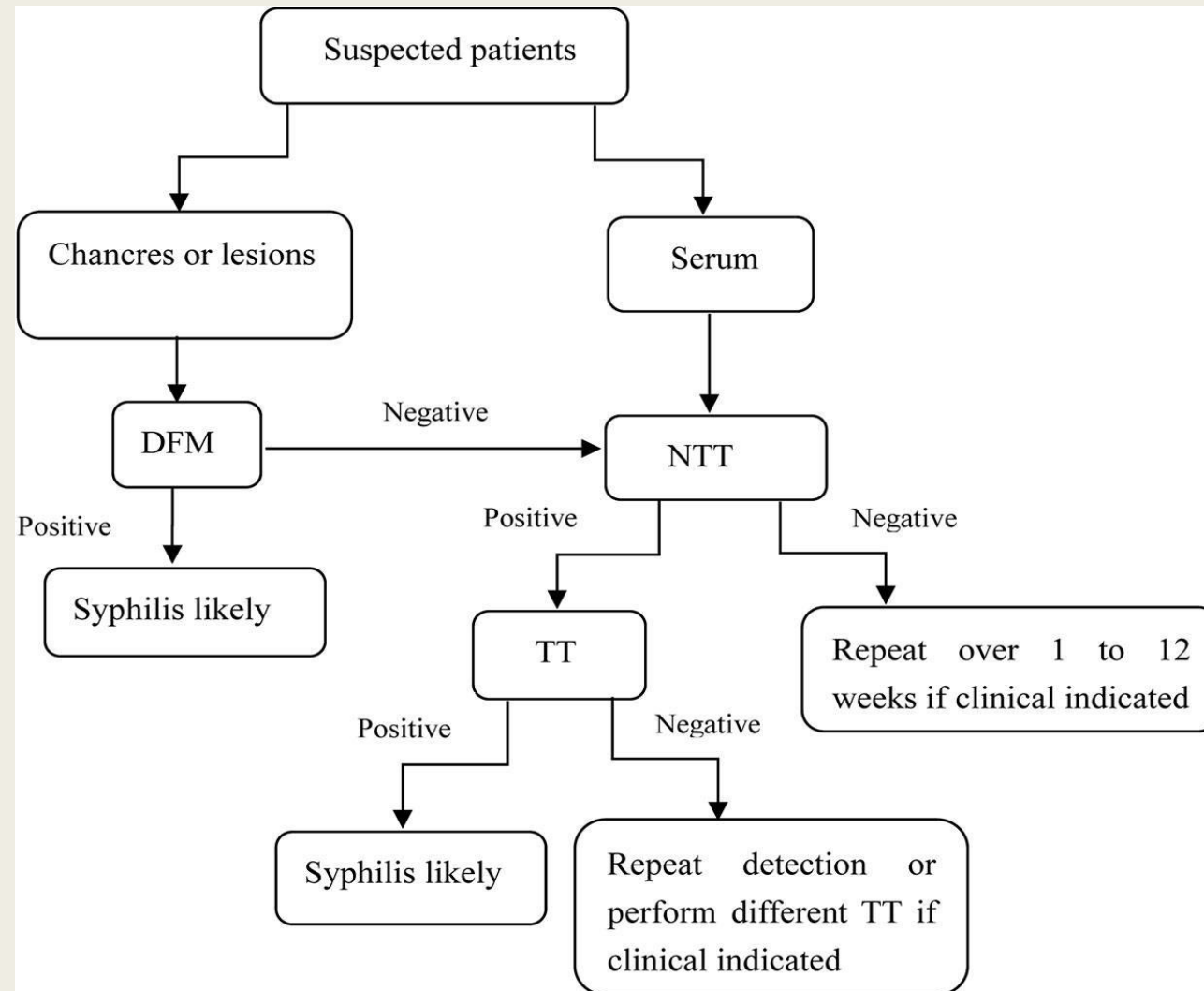
- Babies born to women who have syphilis can become infected through the placenta or during birth. Most newborns with congenital syphilis have no symptoms, although some experience a rash on the palms of their hands and the soles of their feet.
- Later signs and symptoms may include deafness, teeth deformities and saddle nose — where the bridge of the nose collapses.
- However, babies born with syphilis can also be born too early, may die in the womb before birth or can die after birth.

Diagnoses

Currently, serologic tests are the predominant methods for diagnosing syphilis in the laboratory

Stage	Diagnostic methods	Comments
Primary syphilis	DFM PCR serology	DFM of <i>T. pallidum</i> in chancre specimens have high specificity, but negative result does not rule out infection. In the window-period, serology may be negative in many patients. TTs are recommended in early primary syphilis. PCR-based tests have high dependability. Patients symptoms and medical history should be considered.
Secondary syphilis	DFM PCR IHC serology	<i>T. pallidum</i> in skin and mucosal lesions can be detected by DFM. PCR-based test and IHC may be useful for the diagnosis of secondary syphilis. Serology are intrinsically sensitive. Patients symptoms and medical history should be considered.
Latent syphilis	serology	NTTs have high sensitivity in early latent syphilis, but the sensitivity gradually decreased over time. TTs require confirmation in the presence of a negative result of NTTs.
Tertiary syphilis	serology	TTs should always be considered because some of the patient samples may present negative in NTTs. Patients symptoms and medical history should be considered.

Diagnostic algorithm



Treatment and prevention

- Penicillin G benzathine IM is the first line recommended treatment for syphilis
- Alternatives if allergic to penicillin: tetracycline, macrolides, or cephalosporin .
- Prevention : safe sex practices

Gonorrhoea

- Gonorrhoea is an STD caused by *Neisseria gonorrhoea*, a gram negative diplococcus.
- It can cause disease in both males and females, affecting the urethra, anus and also the mouth.
- Gonorrhoea is spread through intercourse. But babies of infected mothers can acquire it during childbirth. And it commonly affects the eyes.

Risk factors :

Sexually active women younger than 25 and men who have sex with men are at increased risk of getting gonorrhoea.

Other factors that can increase your risk include:

- Having a new sex partner
- Having a sex partner who has other partners
- Having more than one sex partner
- Having had gonorrhoea or another sexually transmitted infection

It can range from an asymptomatic infection to blindness depending on the gender and age of the affected person

In males

symptoms may include :

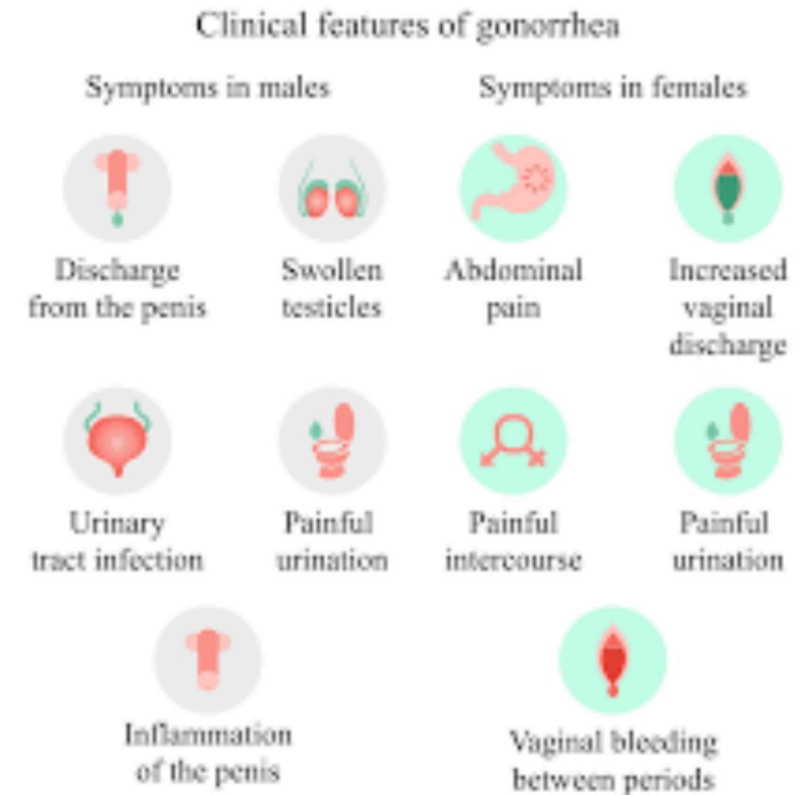
- Painful urination
- Pus-like discharge from the tip of the penis
- Pain or swelling in one testicle

In Females

- Increased vaginal discharge
- Painful urination
- Vaginal bleeding between periods, such as after vaginal intercourse
- Abdominal or pelvic pain

In neonates :

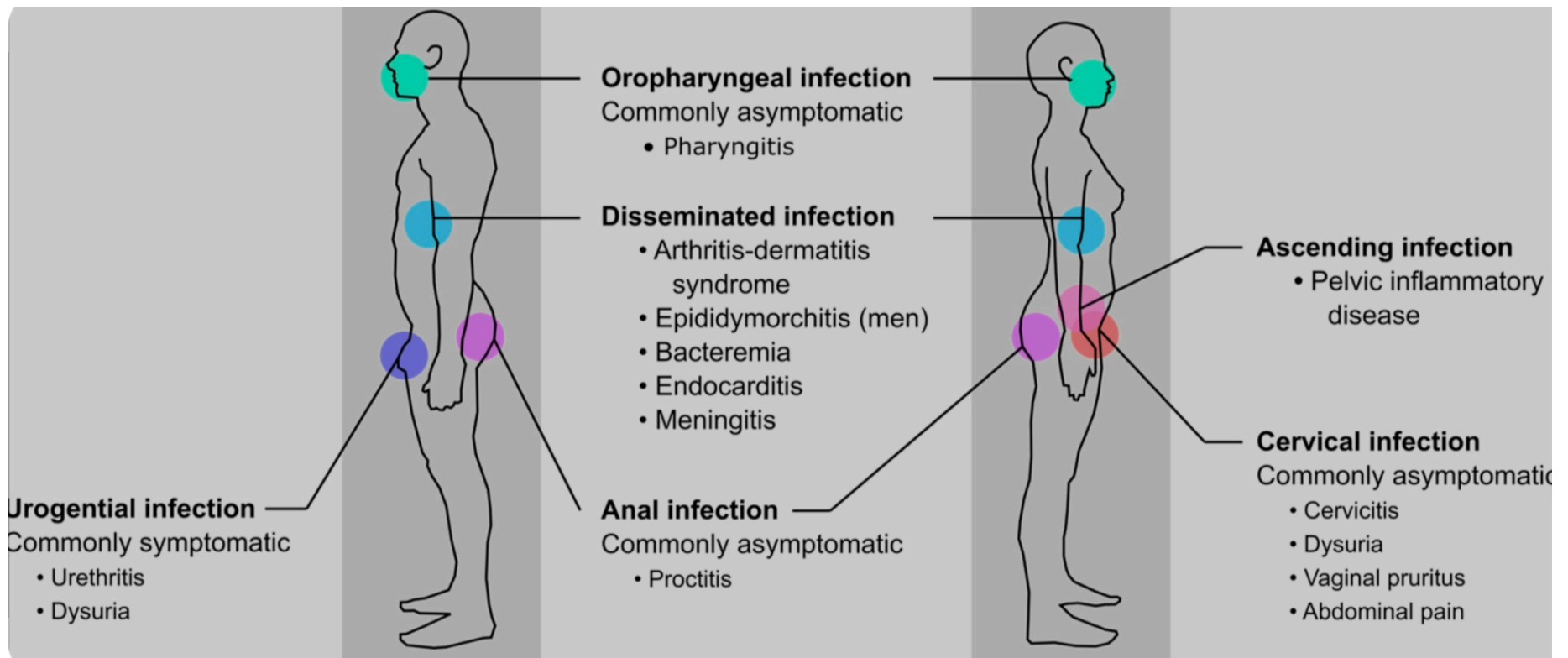
It causes conjunctivitis following natural delivery which may progress to blindness , it can be avoided via preforming c section , or using erythromycin eye ointment .



Gonorrhea at other sites in the body

Gonorrhea can also affect these parts of the body:

- **Rectum.** Signs and symptoms include anal itching, pus-like discharge from the rectum, spots of bright red blood on toilet tissue and having to strain during bowel movements.
- **Eyes.** Gonorrhea that affects your eyes can cause eye pain, sensitivity to light, and pus-like discharge from one or both eyes.
- **Throat.** Signs and symptoms of a throat infection might include a sore throat and swollen lymph nodes in the neck.
- **Joints.** If one or more joints become infected by bacteria (septic arthritis), the affected joints might be warm, red, swollen and extremely painful, especially during movement.



Treatment :

Single dose IM ceftriaxone is the tx of choice , and it can be combined with doxycycline if chlamydial infection is suspected

For septic arthritis : a combination of antibiotics , aspiration of the joint plus debridement is performed .

Chlamydia

- Chlamydia is an STD caused by the gram negative, obligate intracellular bacterium *Chlamydia trachomatis*.
- As gonorrhoea, chlamydia infects both males and females, affecting different organs throughout the body depending on the serotype of the bacterium.


Chlamydia trachomatis serotypes

Types A, B, and C	Chronic infection, cause blindness due to follicular conjunctivitis in resource-limited areas.	ABC = Africa, Blindness, Chronic infection.
Types D–K	Urethritis/PID, ectopic pregnancy, neonatal pneumonia (staccato cough) with eosinophilia, neonatal conjunctivitis (1–2 weeks after birth).	D–K = everything else. Neonatal disease can be acquired during vaginal birth if pregnant patient is infected.
Types L1, L2, and L3	Lymphogranuloma venereum —small, painless ulcers on genitals → swollen, painful inguinal lymph nodes that ulcerate (buboes). Treat with doxycycline.	


Treatment

Both doxycycline and azithromycin (one time treatment) can be used.


Signs of chlamydia in people with vaginas.




White, yellow or gray discharge that may be smelly.




Painful intercourse.



Bleeding in between periods.




- Increased need to pee.
- Pain or a burning sensation when you pee.
- Pus in your urine.




- Painful periods.
- Dull pain in the lower part of your abdomen.
- Itching or burning in and around your vagina.

Signs of chlamydia in people with penises.



Mucus-like or clear, watery discharge from your penis.



Pain or a burning sensation when you pee.

Pid

• both chlamydia and neisseria may cause something called pelvic inflammatory disease , a non specific condition related to bacterial STDs that happens in women .

PID happens due to an ascending std that may cause salpingitis , endometritis, and ovarian abscesses .

Characterized by the following symptoms:

purulent cervical discharge , cervical motion pain and adnexal tenderness.

**A rare complication of pid is a phenomenon called Fitz Hugh Curtis syndrome , an inflammation of the liver capsule causing perihepatitis and adhesions to the peritoneum in the abdominal cavity .

Viral STDs



Herpes Virus

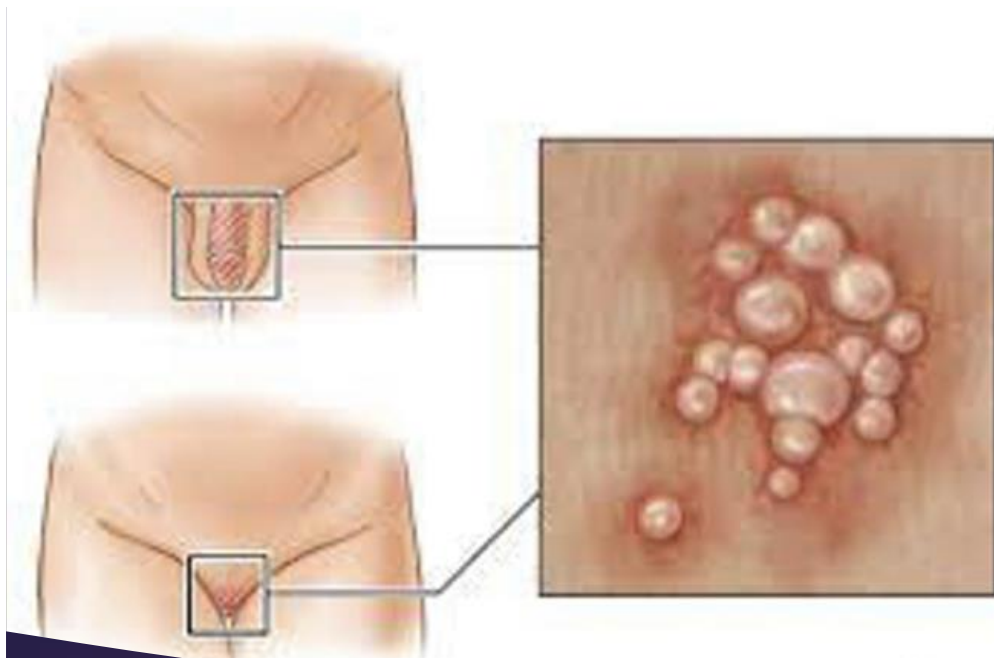
HERPES SIMPLEX

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Type 2



Type 1

Clinical presentation Type 1

- Constitutional symptoms (fever , fatigue).
- Tingling , itching and tenderness.
- Skin lesion (Genital vesicles may not be visualised as they rapidly ulcerate)
- Eczema herpeticum occurs in patients with atopic eczema



GENITAL HERPES SYMPTOMS



PAIN DURING URINATION



FATIGUE



SMALL BLISTERS THAT BREAK OPEN AND CAUSE PAINFUL SORES



FEVER



HEADACHE



PAIN AROUND GENITALS



ITCHING

Diagnosis:

electron microscopy / scraping

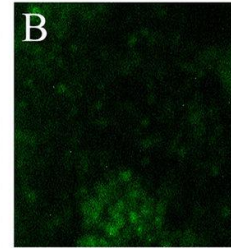
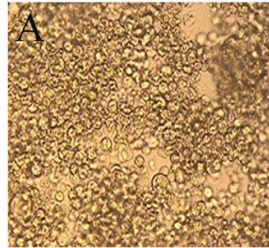
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PCR: Most sensitive , most specific

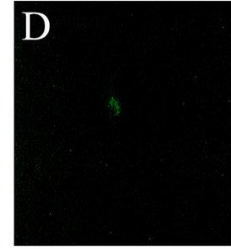
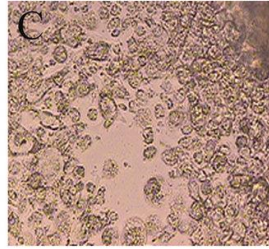
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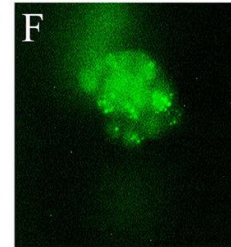
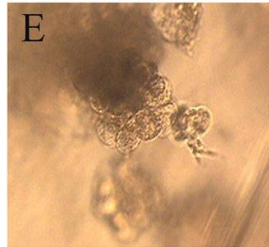
Culture surface
2 days
after HSV-1
infection



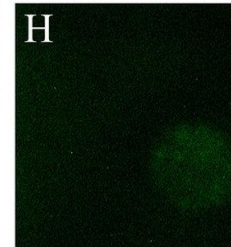
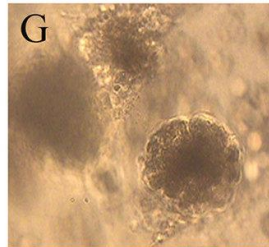
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A specimen is collected by scraping the skin lesion

ADAM.



Treatment

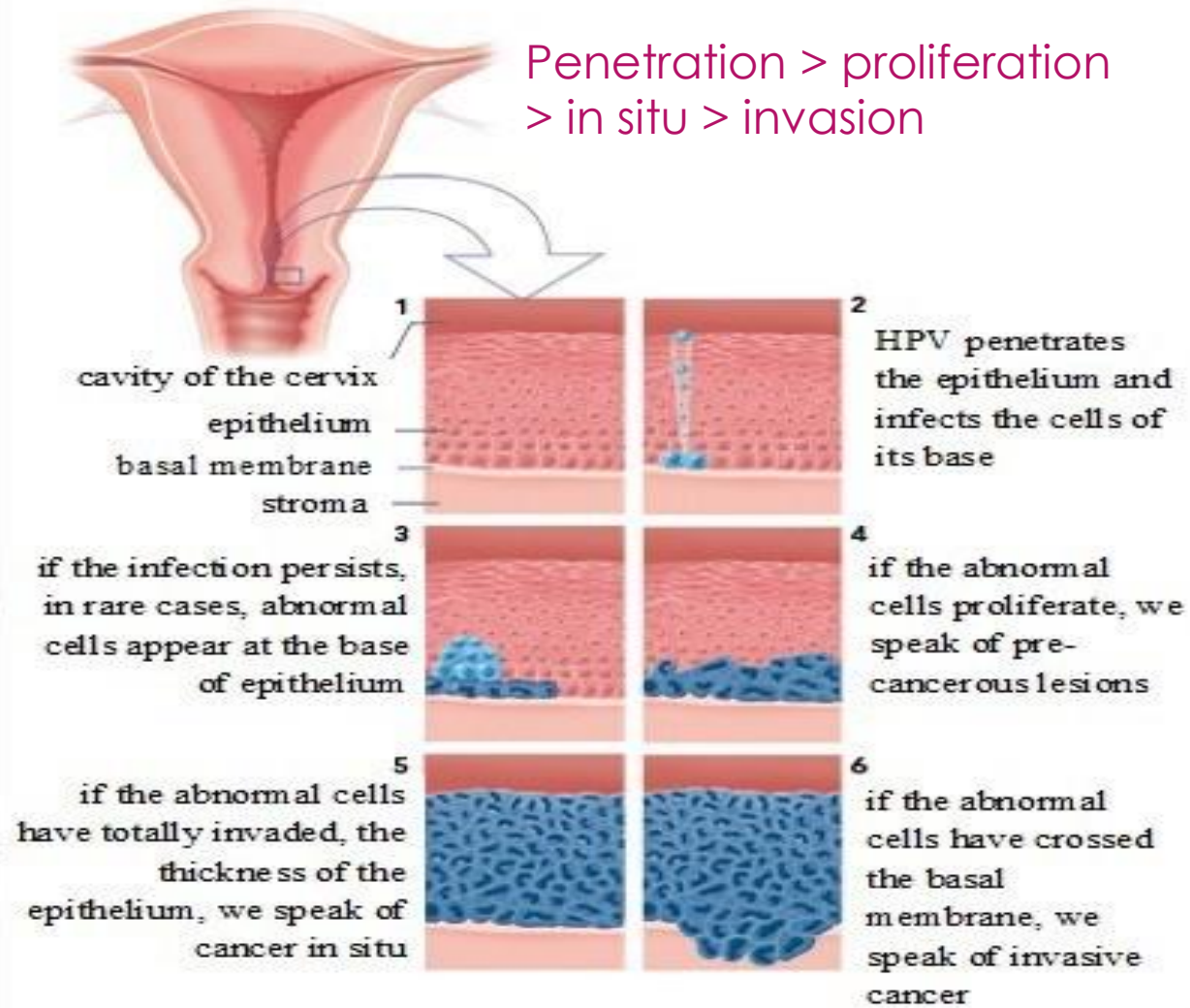
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- **Secondary prophylaxis** for frequent reactivation can be given as 400mg once or twice daily .
- ▶ **Higher doses needed in immunocompromised patients.**

Human papilloma virus :

- **More than 100 subtypes.**
- **subtypes 6 & 11 are responsible for the majority of warts.**
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Gardasil against 6 11 16 18 / Cervarix against 16 18

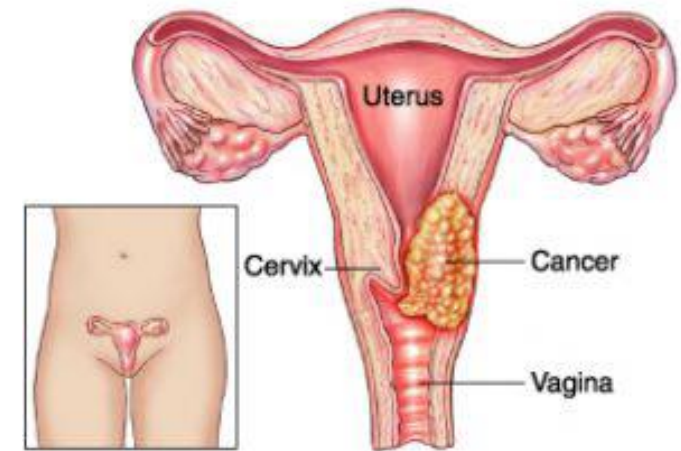
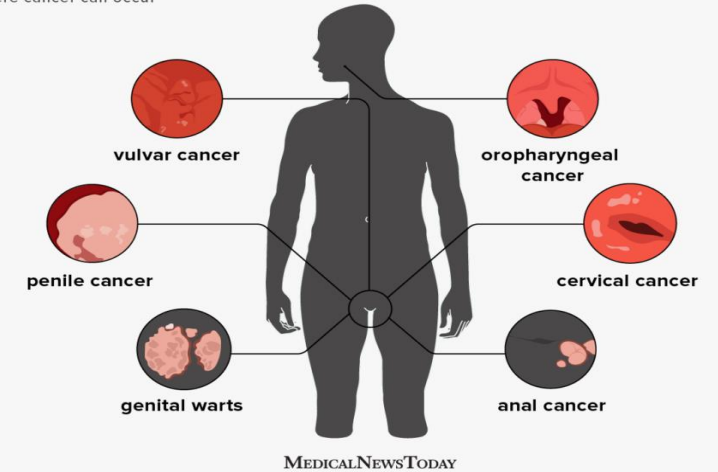
The development of cervical cancer



Penetration > proliferation
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High Risk Papillomavirus (HPV)

Where cancer can occur



2 types of Warts

- ▶ **Anogenital/mucosal**
- ▶ Non-genital/cutaneous

Genital warts

- ▶ **Asymptomatic**
- ▶ HPV can remain viable in low temp. environment for prolonged periods
- ▶ Can appear as filiform or hyperkeratotic periungual



Figure 14.13 Filiform HPV wart.



Figure 14.14 Periungual hyperkeratotic HPV warts.

Non-genital warts

- ▶ Malignancy risk, especially in immunosuppressed patients
- ▶ Acitretin is given to reduce cutaneous malignant transformation

Diagnosis

- Pap smear
- PCR
- Acetic acid test

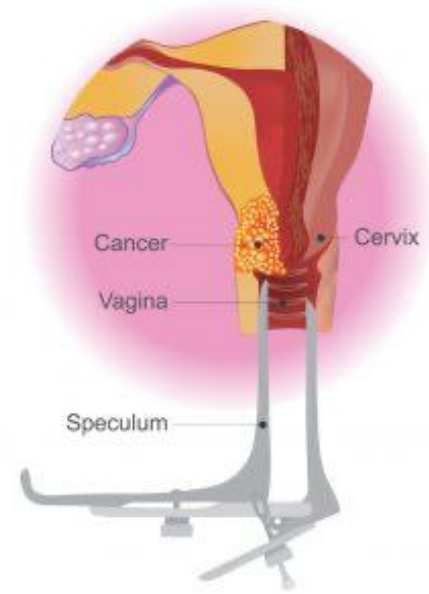


FIGURE 2.9:
VIA negative: There is dense, thick, mucus on the cervix before the application of acetic acid. After the application of acetic acid, the mucus is cleared and the squamocolumnar junction becomes prominent.

Treatment



- Warts commonly occur in childhood and usually resolve spontaneously .
- Warts are generally slow to clear but studies show 70% will resolve following 4 months of salicylic acid applied once daily.
- Other methods include :

Cryotherapy

Electrocautery

Surgical removal

Laser surgery

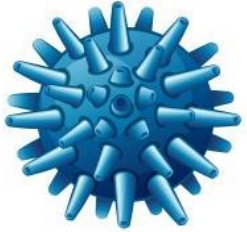
THANK YOU



Thank you

Viral STDs

THIS PART OF THE LECTURE HAS BEEN ALREADY EXPLAINED IN DETAIL IN VIRAL INFECTION LECTURE



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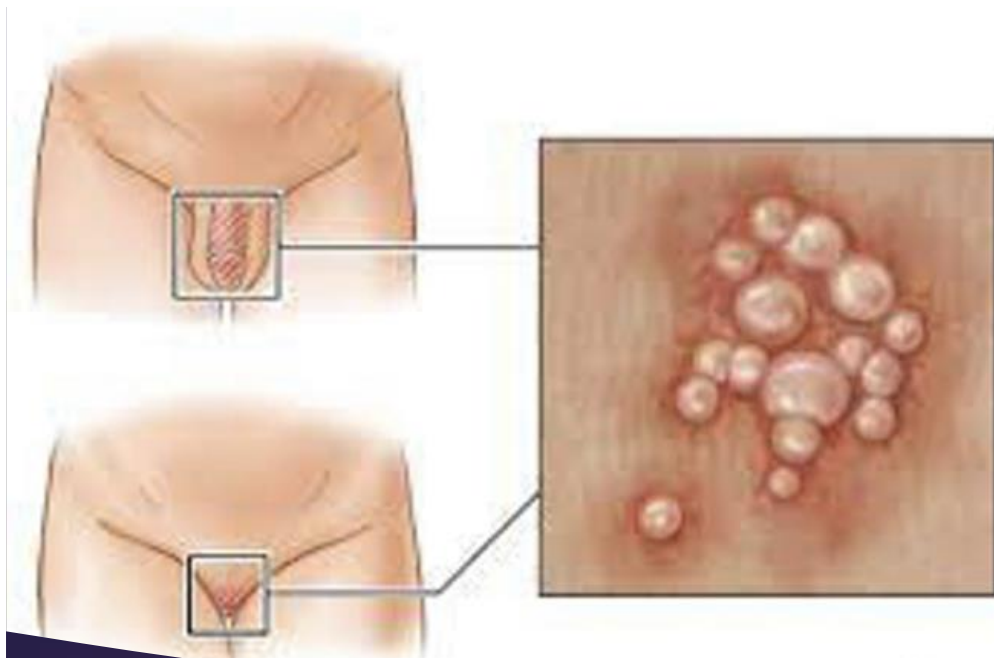
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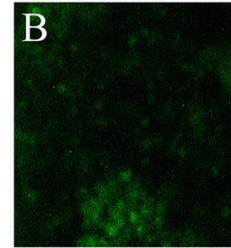
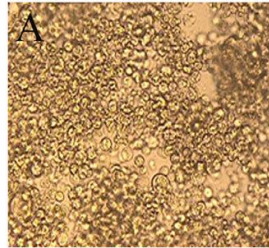
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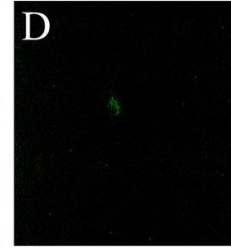
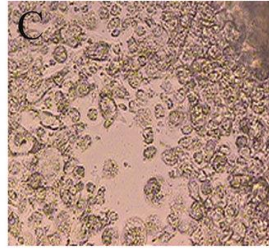
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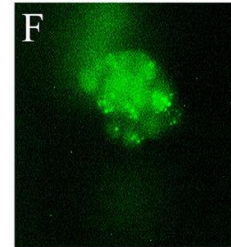
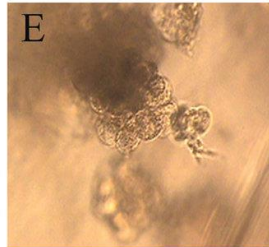
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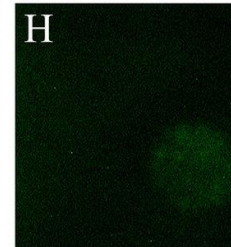
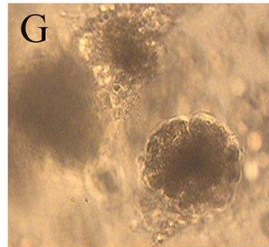
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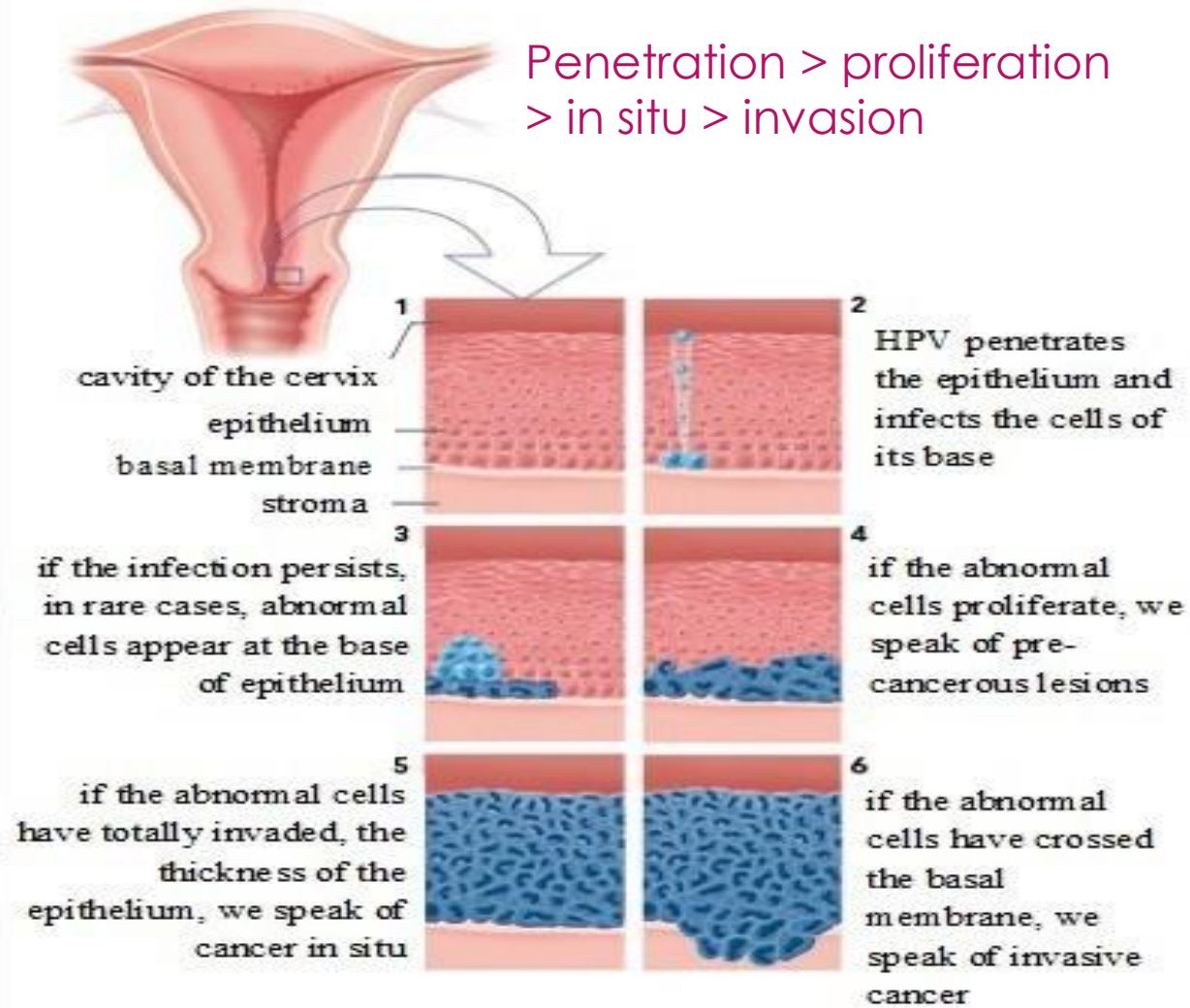
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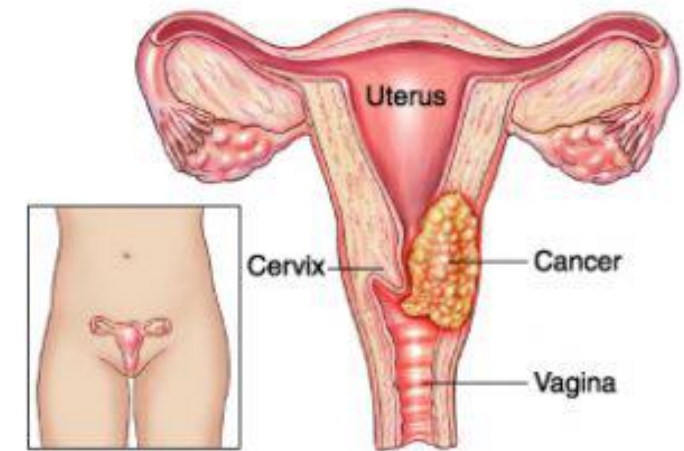
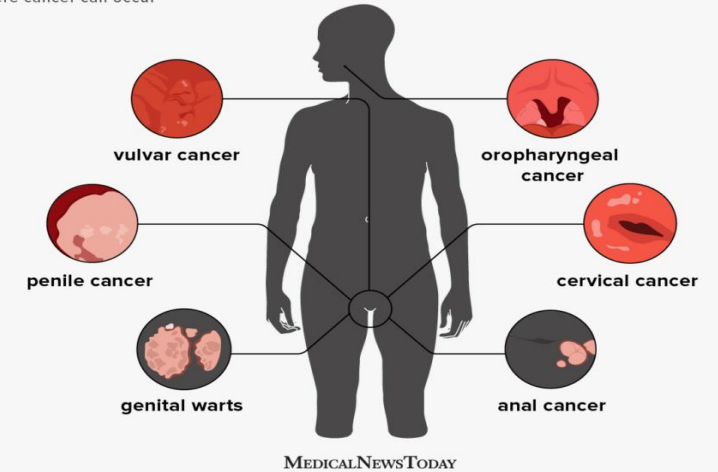
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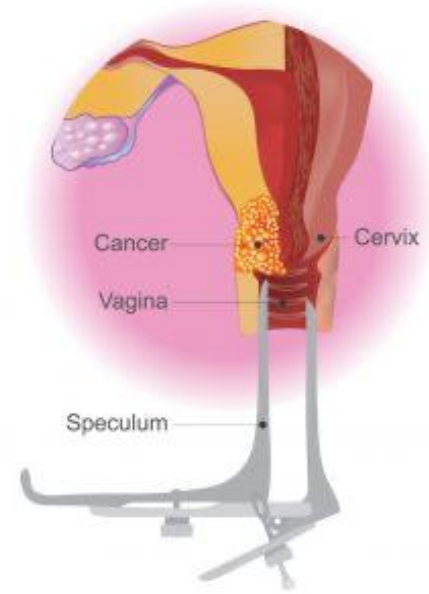


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