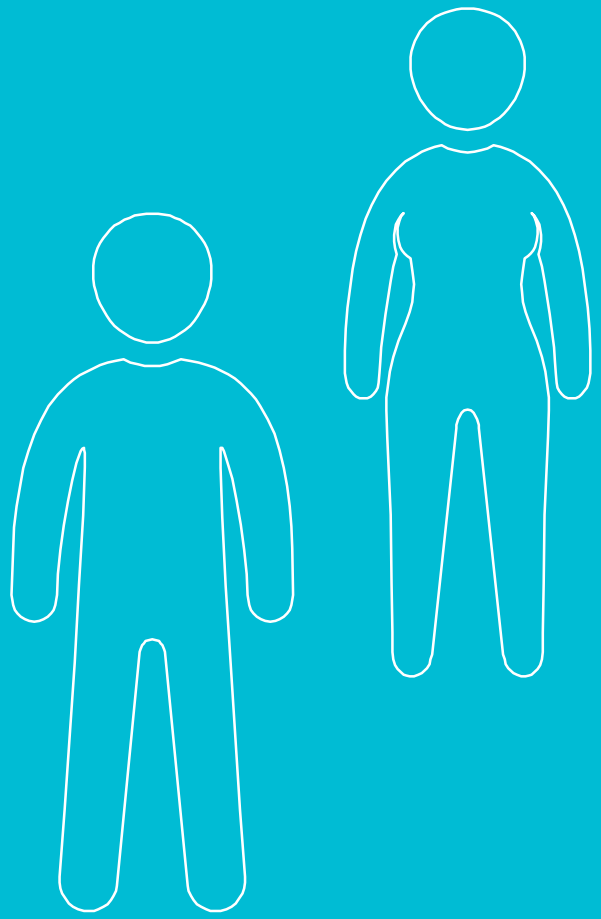
جامعة الملك سعود
King Saud University

Sexually transmitted infections



Student Led Seminar

Supervised by:
Dr. Haytham Alsaif

Objectives

1. List of common sexually transmitted infections.

2. Method to take a sexual history and risk factors.

3. Discussion about the differential diagnosis of:
- Vaginal and urethral discharge.
- Ulcerative and non-ulcerative genitalia.
- Pelvic pain and dysuria

4. List of the possible sexually transmitted infections among heterosexual and homosexual person

5. Investigation, diagnosis and management of sexually transmitted infections.

6. Methods of prevention

7. Complications of sexually transmitted disease.

8. Dermatological pictures of different sexually transmitted infection

Case

20 years old male college student is in a committed relationship with a woman he met 3 months ago. Despite their low risk behavior they still practice habitual condom use. About 7 months into the relationship, one day he notices that he has developed these 'dry' looking, lumpy wart like sores on his testicles and begins to worry about it. The sores were a little painful, and had a cauliflower like appearance.

What is your differential diagnosis ?

MCQs

1) What is the incubation period of Chlamydia trachomatis?

A) 1-3 Days.

B) 3-7 Days.

C) 1-3 weeks.

D) 1-2 Months.

2) What is the most contagious stage of syphilis to sex partners?

A) Primary stage.

B) Secondary stage.

C) Primary and secondary stages.

D) None.

3) What organ is commonly involved in tertiary syphilis?

A) Brain.

B) Kidney.

C) Liver.

D) Pancreas.

MCQs

4) Which one of the following is used to manage patients with Gonococcal cervicitis?

A) Ceftriaxone.
B) Metronidazole.
C) Metronidazole and Doxycycline.
D) Ceftriaxone and Doxycycline.

5) Condylomata acuminata is characteristic feature of which of the following STIs?

A) Herpes simplex virus (HSV).
B) Human papilloma virus (HPV).
C) Human immunodeficiency virus (HIV).
D) Chlamydia trachomatis.

6) What of the following is a complication of Human papilloma virus (HPV)?

A) Ectopic pregnancy.
B) Aseptic meningitis.
C) Cervical cancer.
D) Kaposi's sarcoma.

1.

Method to take a sexual history and risk factors.

Taking A Sexual History And Risk Factors

- **Assure confidentiality**
- **Manage communication**
- **History must cover the 5Ps:**

➢ **Past STIs**

➢ **Partners**

➢ **Practices**

➢ **Prevention of STIs and HIV**

➢ **Pregnancy history and plans**

Managing communication

- The initial greeting to the patient;
- Maintaining eye contact (if culturally acceptable) and using appropriate body language;
- Initiating a consultation with open questions followed by exploration of initial concerns and more closed questions as the consultation continues;[16]
- Explaining the rationale for some of the questions asked;
- Considering the use of sexually explicit language within the sexual history consultations and use language that is clear, understandable and with which both clinician and patient are comfortable;
- Awareness of the signs of anxiety and distress from the patient;
- Recognising non-verbal cues from the patient.

Female Sexual History

Table 2. Minimum sexual history for symptomatic female patient attending for STI testing.

- Symptoms/reason for attendance
- Date of LSC, partner's gender, anatomic sites of exposure, condom use and any suspected infection, infection risk or symptoms in this partner
- Previous sexual partner details, as for LSC, if in the last three months and a note of total number of partners in last three months if more than two
- Previous STIs
- Last menstrual period (LMP) and menstrual pattern, contraceptive and cervical cytology history
- Pregnancy and gynaecological history
- Blood-borne virus risk assessment and vaccination history for those at risk
- Past medical and surgical history
- Medication history and history of drug allergies
- Agree the method of giving results
- Establish competency, safeguarding children/vulnerable adults

Recommend/consider

- Recognition of gender-based violence/intimate partner violence[a]
- Alcohol and recreational drug history[b]

Male Sexual History

Table 3. Minimum sexual history for symptomatic male patient attending for STI testing.

- Symptoms/reason for attendance
- Last sexual contact, partner's gender, anatomic sites of exposure and condom use, any suspected infection, infection risk or symptoms in this partner
- Previous sexual partner details as for LSC, if in the last three months, and a note of total number of partners in last three months if more than two
- Previous STIs
- Blood-borne virus risk assessment and vaccination history for those at risk
- Past medical and surgical history
- Medication history and history of drug allergies
- Agree method of giving results
- Establish competency, safeguarding children/vulnerable adults

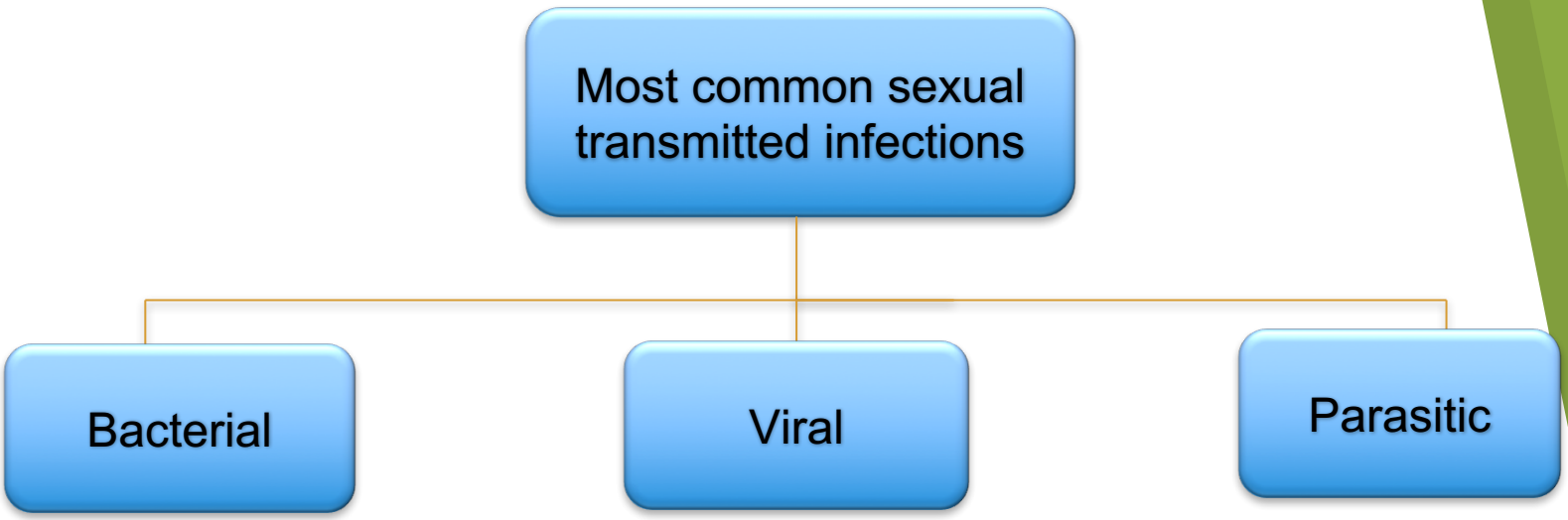
Recommend/consider

- Recognition of gender-based violence/intimate partner violence[a]
- Alcohol and recreational drug history[b]

2.

List of common STIs & Discussion about the differential diagnosis, management.

Common Sexually Transmitted Infections



Chlamydia
Gonorrhea
Syphilis
Chancroid

Herpes simplex
Hepatitis
HIV
Human Papillomavirus
molluscom contagiusom

Trichomoniasis

Most common sexual transmitted infections

Bacterial infections:

1-**Chlamydia trachomatis** (Causes Chlamydial infection)

2-**Neisseria gonorrhea** (Causes gonorrhea)

3-**Treponema pallidum** (Causes Syphilis)

4-**Haemophilus ducreyi** (Causes chancroid)

Chlamydia Trachomatis

Non-Gonococcal Urethritis/Cervicitis

- It's the most common bacterial STI in KSA
- It affects both men and women.
- It has an incubation period of 1-3 weeks
- **Mode of transmission:**

➢ Sexual Intercourse

➢ transmission to extragenital sites (rectum, pharynx, and conjunctiva) may occur through:

- receptive anal or oral intercourse
- autoinoculation from genital infection

➢ perinatal transmission typically occurs via exposure to mother's infected cervix

Chlamydia Trachomatis

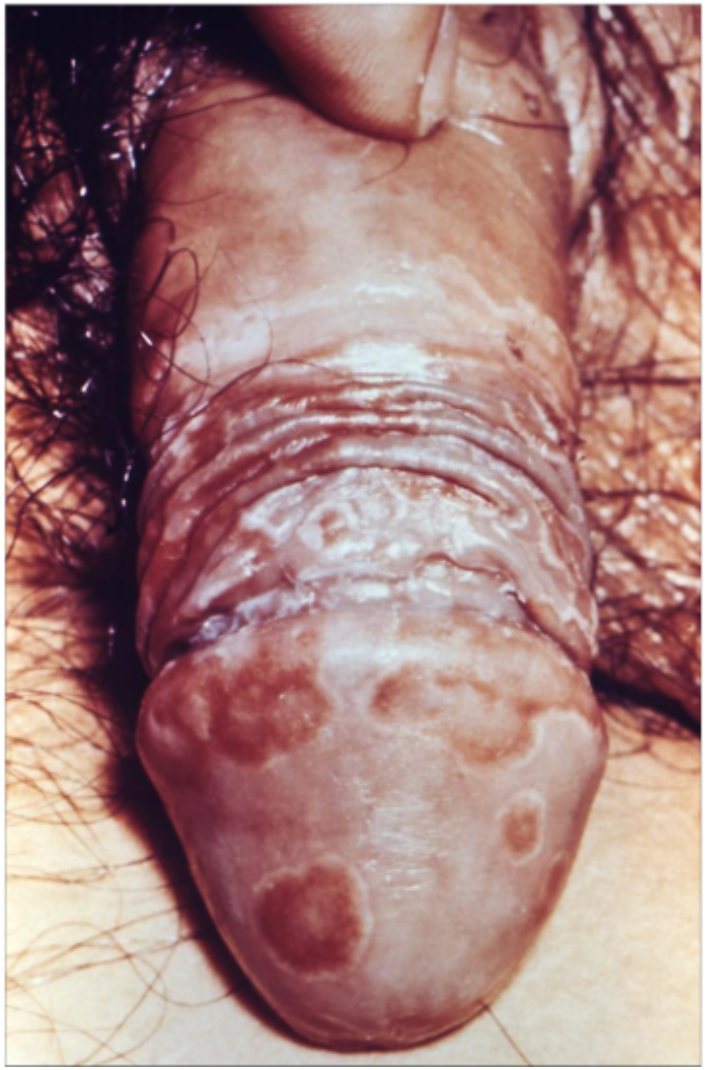
Non-Gonococcal Urethritis/Cervicitis

Clinical presentation of Chlamydial infection:

Male (asymptomatic in 50%)	Female (asymptomatic in 70%)
Cloudy or clear discharge from the penis	Abnormal vaginal discharge
Burning sensation when urinating	
Painful and swollen testicles	Pain in intercourse
	Abdominal pain and fever

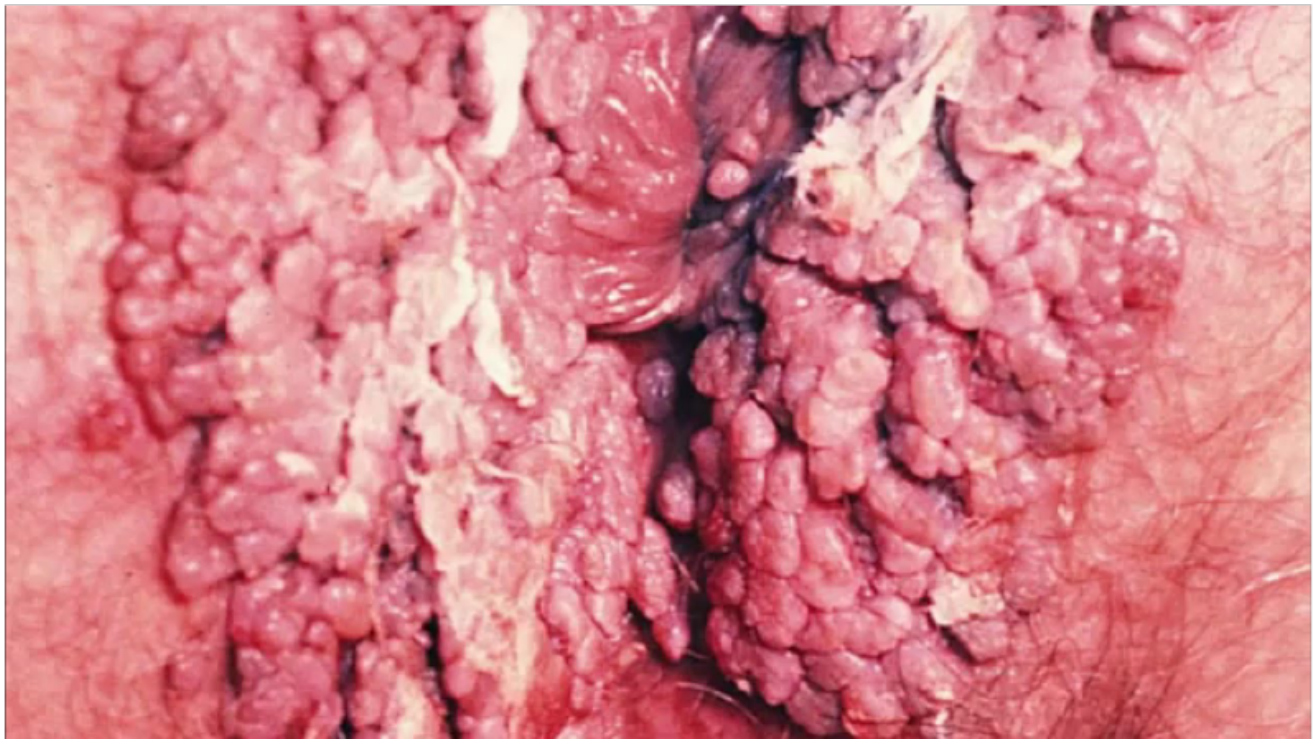
Dermatological pictures of different STIs

Chlamydia Trachomatis male



Dermatological pictures of different STIs

Chlamydia Trachomatis female



Chlamydia trachomatis

Non-Gonococcal Urethritis/Cervicitis

Investigations:

- Centers for Disease Control and Prevention (CDC) recommends **nucleic acid amplification tests (NAAT) as test-of-choice;**

◦ high sensitivity and specificity

◦ can detect chlamydia and gonorrhea in same specimen

◦ can be used with large range of sample types, including urine specimens, endocervical swabs, urethral swabs, and vulvovaginal swabs

- preferred sample types are **vaginal swabs**, which can be self-collected, in women and **first-catch urine** in men

Management: Consider all partners

• Treat for both gonorrhea & chlamydia:

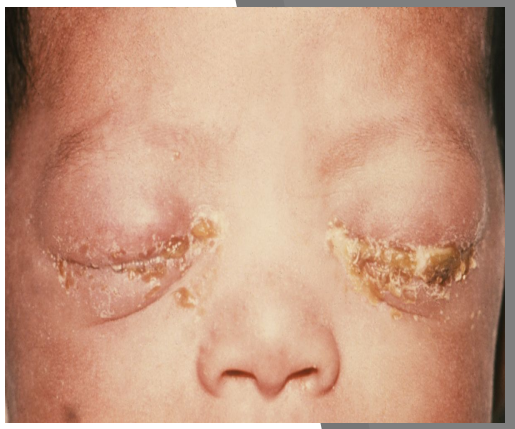
- **ceftriaxone** intramuscularly **in single dose + doxycycline** orally **twice daily for 7 days.**

• In pregnancy **erythromycin**

Neisseria gonorrhea

Gonococcal Urethritis/ Cervicitis

- Very common infection especially among young people 15-24 years.
- Incubation period is 2-14 days (most symptoms present between 2-5 days).
- Symptomatic in men, more complication in women
- Disseminated Gonococcal infection “rare”
- **Modes of transmission**:
  - Sexual contact
  - Mother to baby during childbirth.

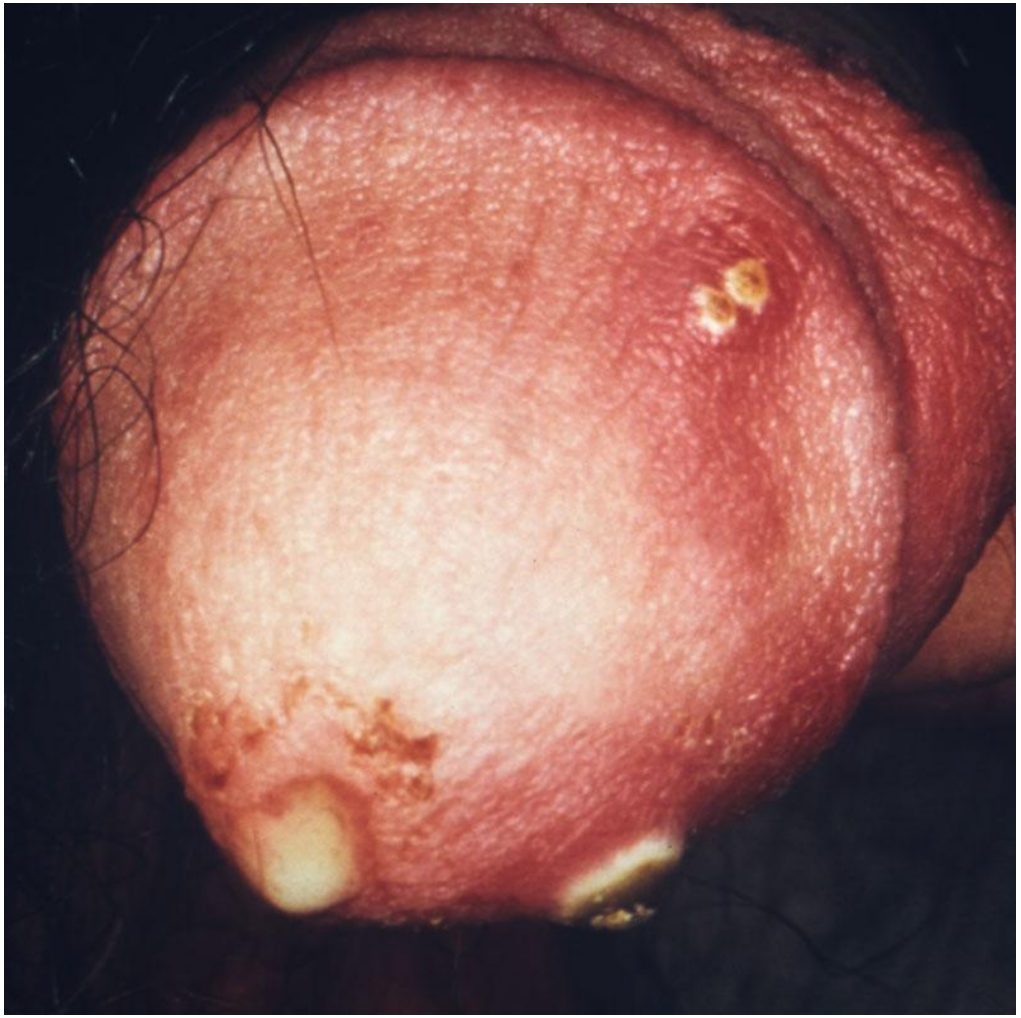


Gonococcal ophthalmia neonatorum

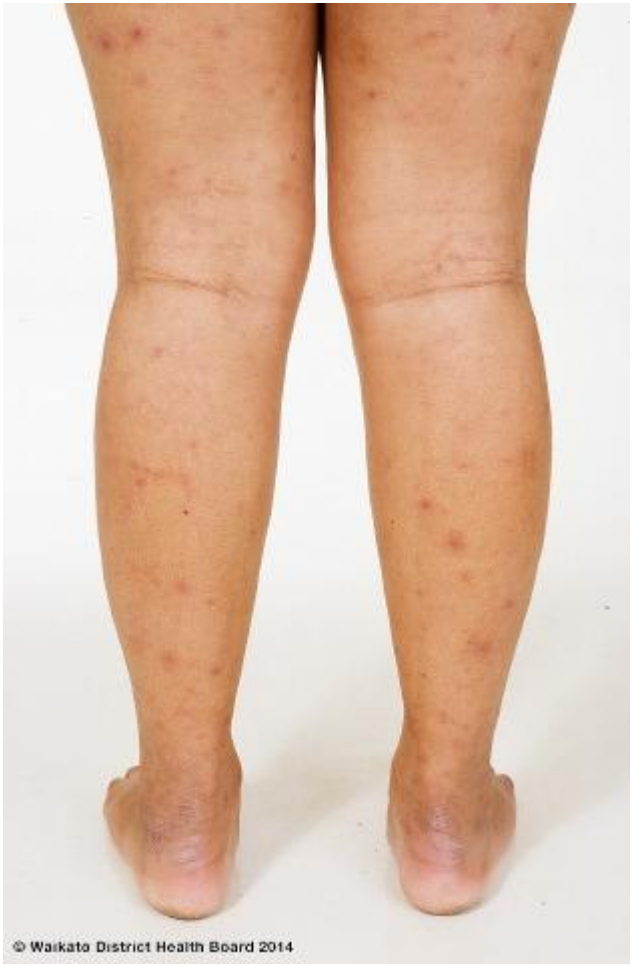
Clinical presentation:

Men (Asymptomatic in 10%)	Women (Asymptomatic in 50%)
Yellow , greenish, whitish ,and discharge from penis	Muco-purulent vaginal discharge
Dysuria	
Painful or swollen testicles (less common)	Vaginal bleeding between periods or after sexual intercourse
	Pelvic pain
	Conjunctival infection (seen in neonates born to infected mothers)

Gonococcal Penile Lesion



Gonococcal Skin Lesions



Neisseria gonorrhea

Gonococcal Urethritis/ Cervicitis

Investigations:

- **Gram stain of urethral discharge** showing polymorphonuclear cells and gram-negative diplococci is adequately sensitive and specific for diagnosis of Neisseria gonorrhoeae as the cause of urethritis
- **nucleic acid amplification tests (NAATs)** for urine*, urethral, cervical, and vaginal specimens.

* first catch urine sample

Management:

- notify Ministry of Health in KSA
- screen for other STIs
- Treat for both gonorrhea & chlamydia:
  - **ceftriaxone** intramuscularly **in single dose + doxycycline** orally **twice daily for 7 days.**
- Partner should be tested or empirically treated.

Syphilis

- Syphilis is divided into stages (**primary, secondary, latent, and tertiary**)

Treponema pallidum

- There are different signs and symptoms associated with each stage.
- **Clinical Presentation** characterized initially by a painless ulcer (chancre)
- Most contagious stages to sex partners are the primary and secondary.
- **Modes of transmission:**

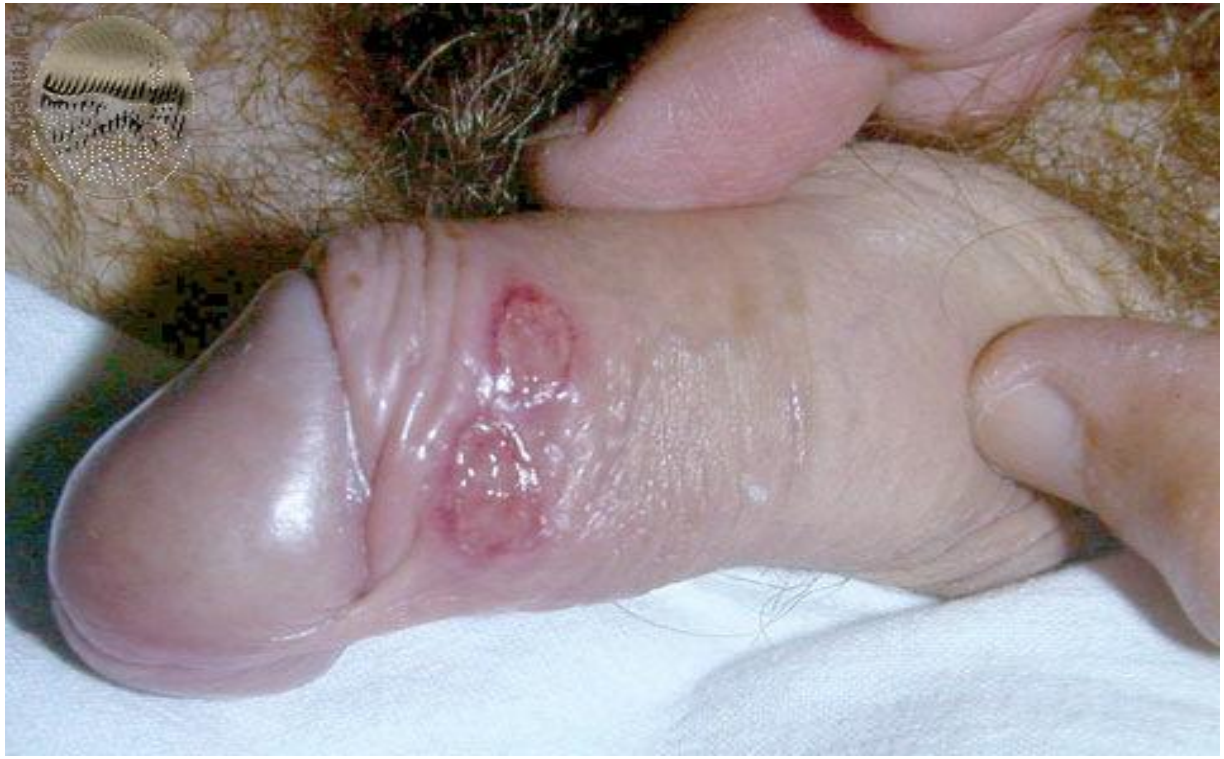
Sexual and vertical (from an infected mother to her unborn baby), rarely by transfusion

Primary Syphilis

(Highly infectious**)** **2-3 weeks after infection.**

- In this stage a person generally has sores around the genitals, anus, and mouth.
- These sores are usually firm , round , and painless.
- **Chancre** on vulva, vagina, or cervix:
  - *The lesion starts as a papule and rapidly forms an ulcer that is typically non-exudative with a clean base.*
- Regional non-tender lymphadenopathy may be present.

Primary Syphilis (chancre)



Secondary Syphilis

(Resolve spontaneously)

2-8 weeks after the first sores

- About 33% of those who do not have their primary syphilis treated will develop this stage.
- **generalized maculopapular rash**: palms, soles, trunk, limbs
- **condylomata lata**: anogenital, broad-based fleshy grey lesions
- Symptoms include swollen lymph nodes , and fever.
- serological tests usually positive

Latent Syphilis

- having serologic proof of infection without signs and symptoms of the disease.

- It can be :

Early:

➢ Less than 2 years after secondary syphilis

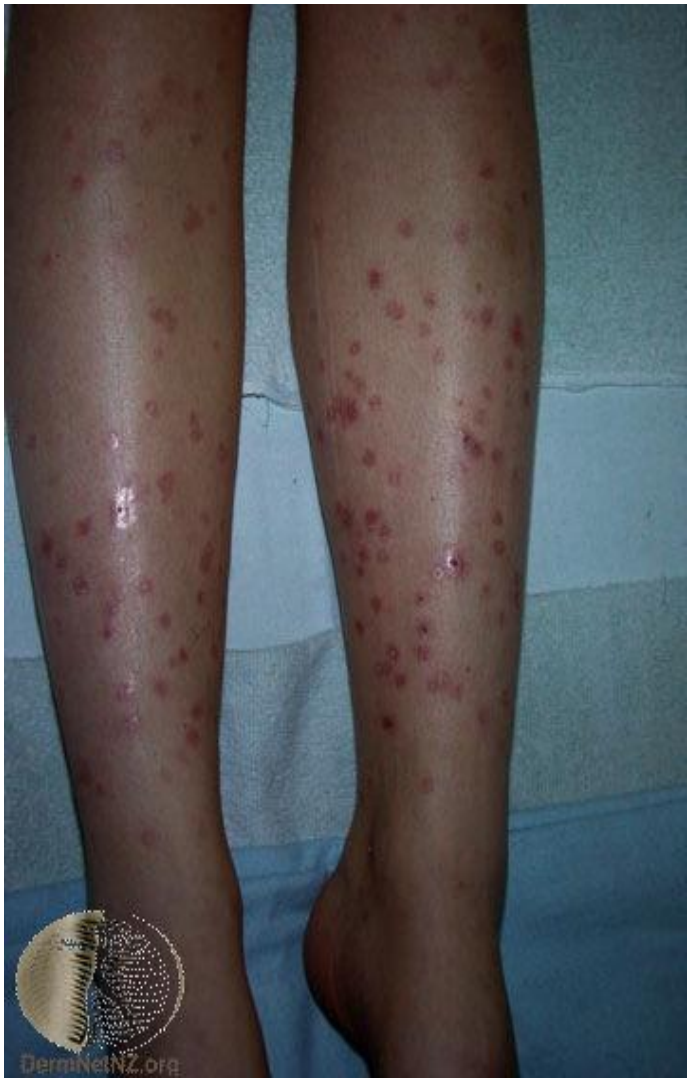
Late:

➢ More than 2 years after secondary syphilis

- not as contagious as early latent phase.

Secondary Syphilis

generalized maculopapular rash



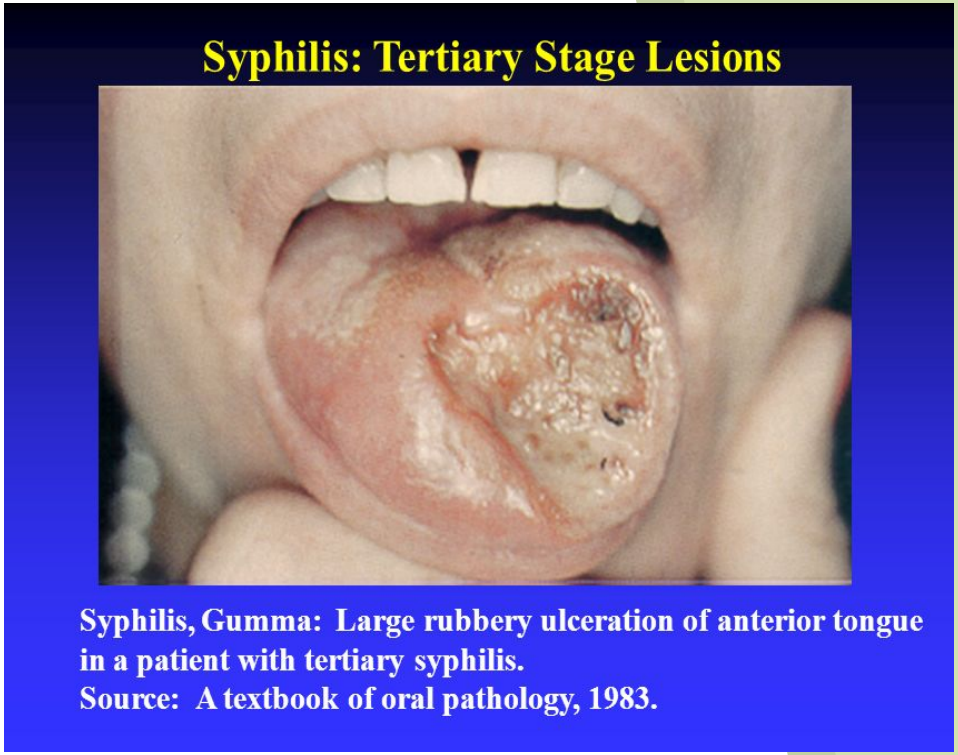
Tertiary syphilis

- Final stage of syphilis.
- Associated with severe medical problems.
- It generally involves the skin and bones.

■ may involve any organ system
■ neurological: tabes dorsalis, general paresis
■ cardiovascular: aortic aneurysm, dilated aortic root
■ vulvar gumma (granulomatous lesion): nodules that enlarge, ulcerate and become necrotic (rare)

- **Congenital syphilis**

■ may cause fetal anomalies, stillbirths, or neonatal death



Investigations of **Syphilis**

Table 3. Common Diagnostic Tests for Syphilis

Test	*Explanation*	*Advantages*	*Limitations*
Dark-field microscopy	Direct visualization of spirochetes in ulcer exudate fluid	Immediate diagnosis Allows for faster partner notification	Not useful for oral lesions (nonvenereal treponemes inhabit the mouth) Dark-field microscope required Requires experienced technician
Nontreponemal serology (Venereal Disease Research Laboratory test, rapid plasma reagin test)	Detects antibodies to cardiolipin in blood	Inexpensive Titers correlate with treatment success/failure	Lack reactivity in early primary syphilis High titer levels may be read as false negative (prozone phenomenon) 1 to 2 percent false-positive rate in pregnant women and in persons with autoimmune disorders, lymphoma, malaria, cirrhosis
Treponemal serology (fluorescent treponemal antibody absorption assay, *Treponema pallidum* particle agglutination test)	Detects antibodies to *T. pallidum* in blood	Confirmatory test with high specificity and low false-positive rate Becomes reactive earlier in primary syphilis than nontreponemal tests	Relatively expensive Lack reactivity in early primary syphilis

Information from reference 19.

Treatment of **Syphilis**

- Primary, Secondary, Latent Syphilis Of<1yr Duration

■ **Benzathine penicillin G2**.

■ In sensitivity to penicillin: **Doxycycline** or **Tetracycline**

■ treat partners: partner should be evaluated and have serologic testing performed, and treated accordingly.

- Latent Syphilis Of >1yr Duration

■ **Benzathine penicillin G2.**

❖ Screen titer should decrease by 4 folds after treatment.

Human immunodeficiency virus (HIV)

Video

Herpes Simplex virus(HSV)

HSV-1 (incubation 2-12 d)

- **Oral Herpes**
- Typically "**cold sores**"

(grouped vesicles at the mucocutaneous junction which quickly burst)

- Can be spread from the mouth to the genitals through oral sex.
- **Recurrent on face, lips and hard palate.**

HSV-2 (4-7 d after sexual contact)

- **Genital herpes sexually transmitted**
- **Gingivostomatitis**: entire buccal mucosa involved with erythema and edema of gingiva
- **Vulvovaginitis**: edematous, erythematous, extremely tender, profuse vaginal discharge
- **Urethritis**: watery discharge in males
- recurrent on vulva, vagina, penis

Disseminated HSV in immunocompromised

Neonatal HSV (vertical transmission)

Herpes Simplex virus(HSV)

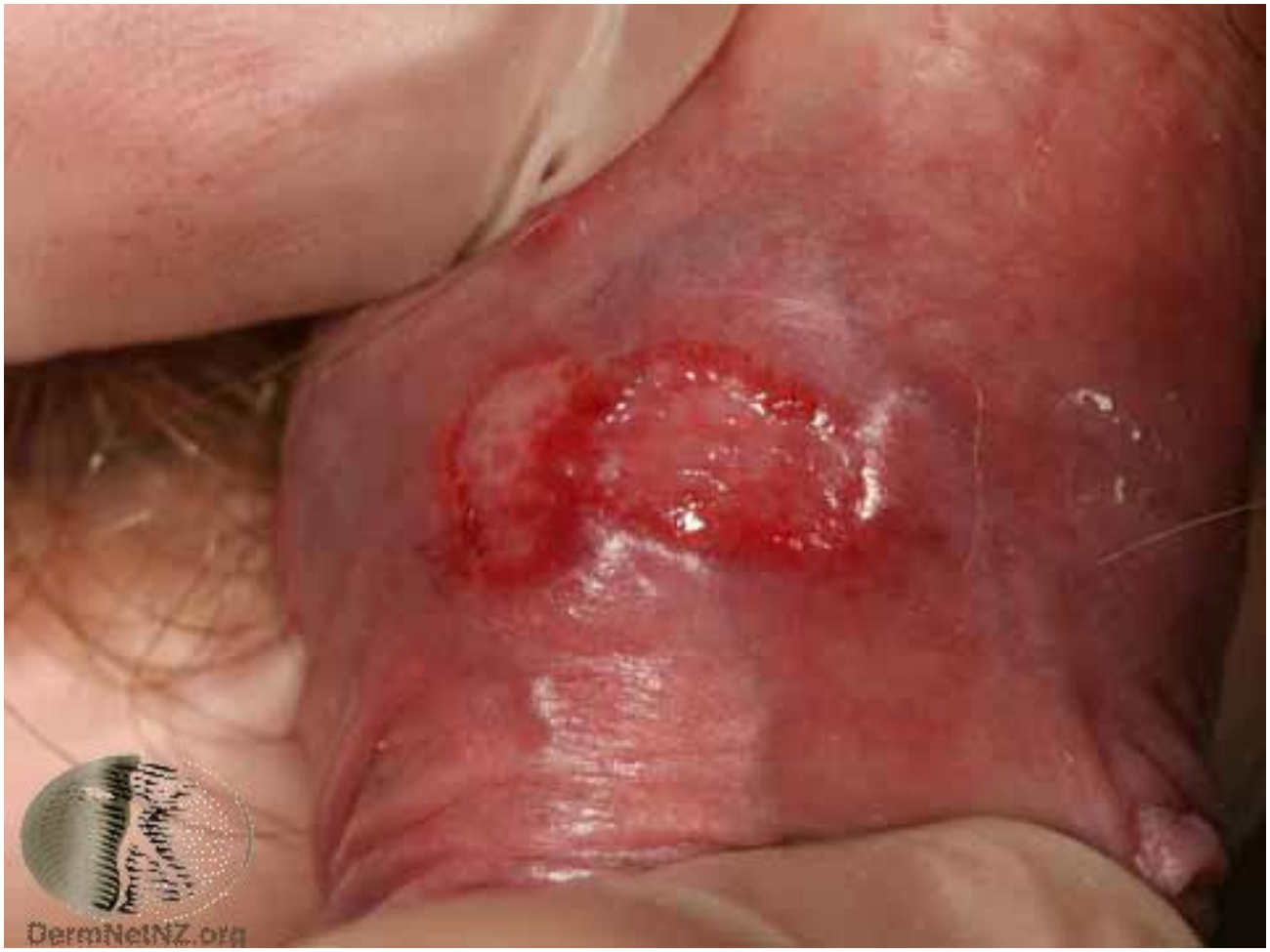
Overall Signs and Symptoms:

- It is a life long infection with outbreaks and remissions.
- **Oral lesions** involve painful vesicles on patches of erythematous skin.
- Clusters of erythematous painful papules and **vesicles on external genitalia**.
- The vesicles may break down and become ulcers that develop crusts while healing.
- **Tender inguinal lymphadenopathy**.
- In immunocompromised patients symptoms are **more severe**.

Dermatological pictures of different STIs

Oral Herpes

Genital Herpes



Herpes Simplex virus(HSV)

Investigations:

- **Tzanck smear** w/ Giemsa stain shows multinucleated giant epithelial cells.

- **Swab** from base of genital lesion can be tested by:
  - **viral culture**
  - **herpes simplex virus (HSV) antigen detection**
  - **polymerase chain reaction (PCR) of HSV DNA**

- **Serologic testing for antibody** for current or past infection if necessary

Herpes Simplex virus(HSV)

Management:

HSV-1

■ oral disease, immunocompetent:

1st line: oral **Acyclovir, valacyclovir,** or **famcyclovir** + symptomatic treatment for pain.

2nd line: **topical antiviral** + symptomatic treatment.

HSV-2

■ genital disease, immunocompetent:

■ oral **Acyclovir, valacyclovir,** or **famcyclovir** + symptomatic treatment for pain.

■ herpes genitalis, look for and treat any other STIs

■ pregnancy; **Acyclovir** for symptomatic women, **Suggested C/S** if active genital lesions

Human Papilloma virus(HPV)

- >200 subtypes, of which >30 are genital subtypes.
- HPV **types 6 and 11** are classically associated with anogenital warts/ condylomata acuminate.
- HPV **types 16 and 18** are the most oncogenic (cervical cancer).
- HPV **types 16, 18, 31, 33, 45, 52, and 58** can cause anal cancer.

- **Most are asymptomatic** (**genital warts, cervical dysplasia**)
- **Male:**

Cauliflower lesions (condylomata acuminata) on skin/mucosa of penile/ anal area

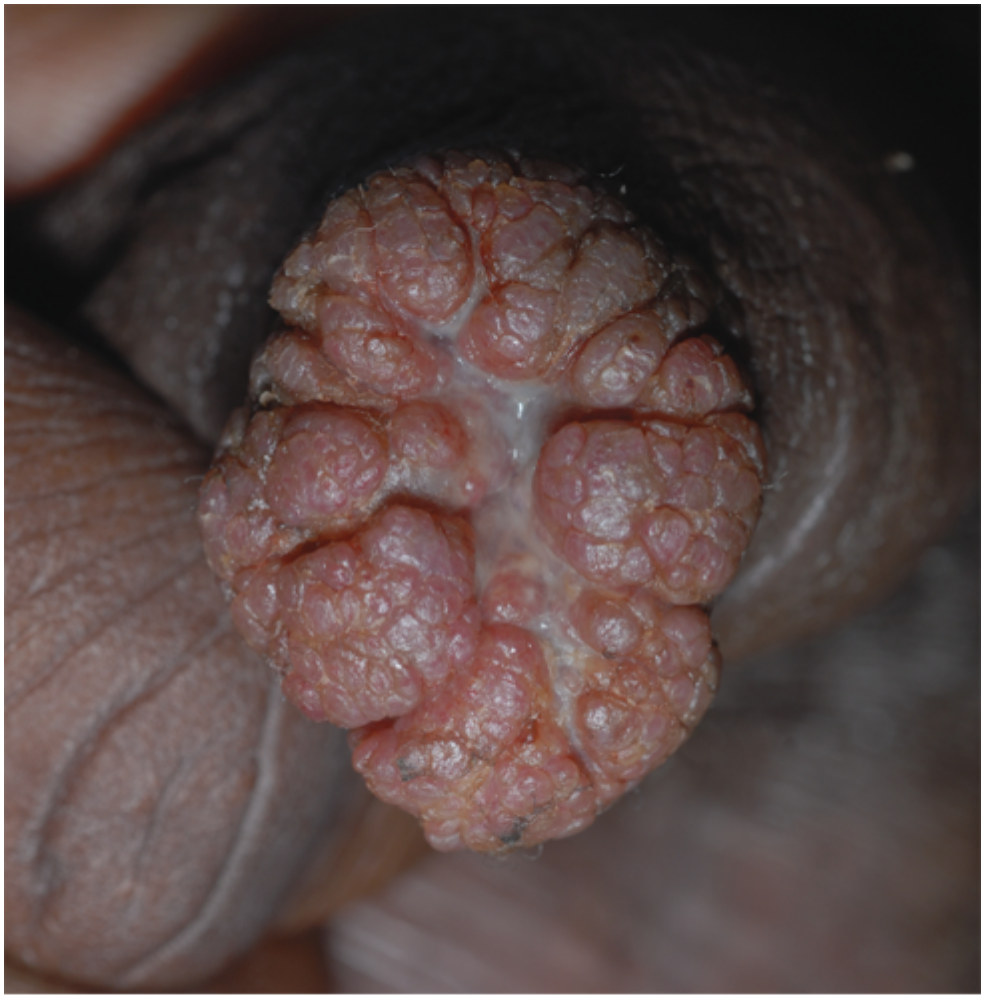
- **Female:**

Cauliflower lesions and/or pre-neoplastic/neoplastic lesions on cervix/vagina/vulva

Investigations:

- None needed if simple condylomata
- Potential **biopsy** of suspicious lesions
- **Female**: screening for cervical dysplasia through regular **Pap smears**

Cauliflower-like appearance of condylomata acuminate HPV



Source: K.J. Knoop, L.B. Stack, A.B. Storrow, R.J. Thurman:
The Atlas of Emergency Medicine, 4th Edition,
www.accessemergencymedicine

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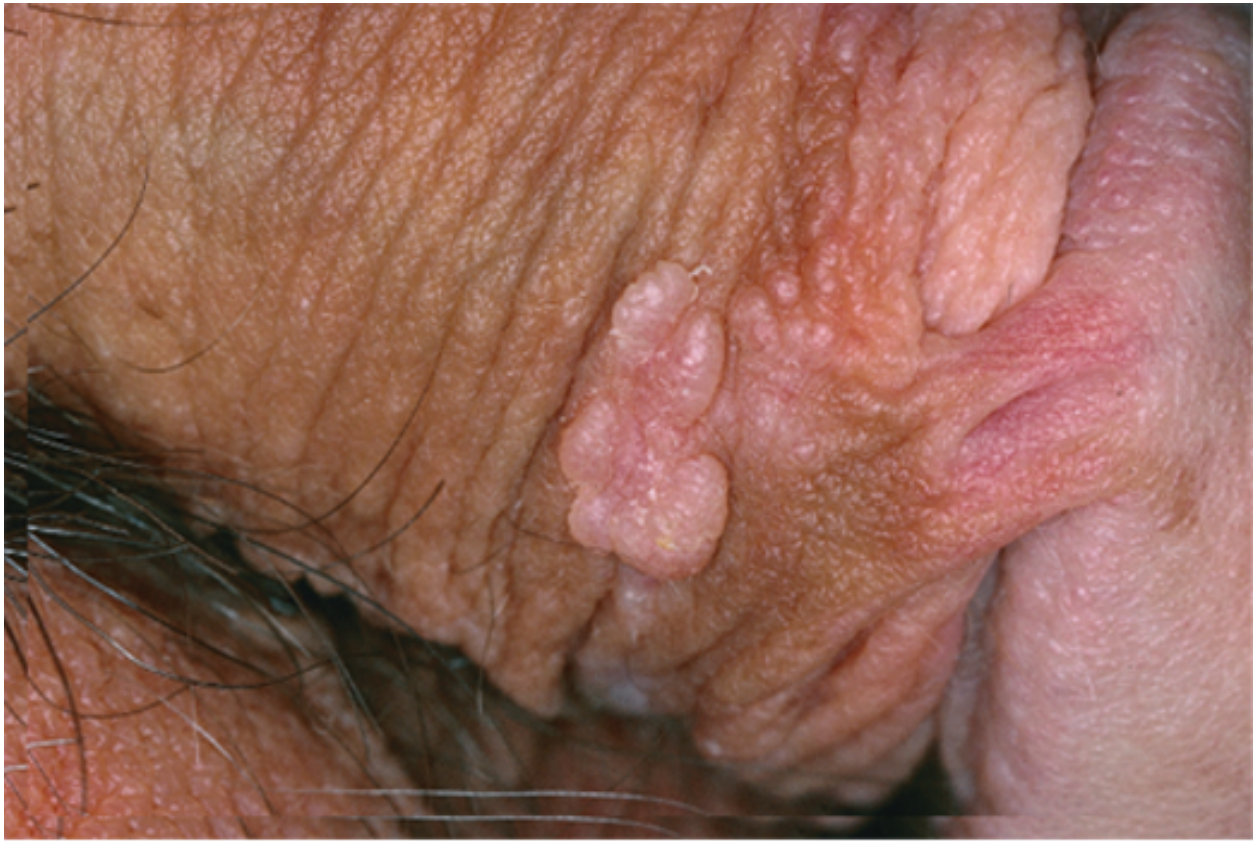
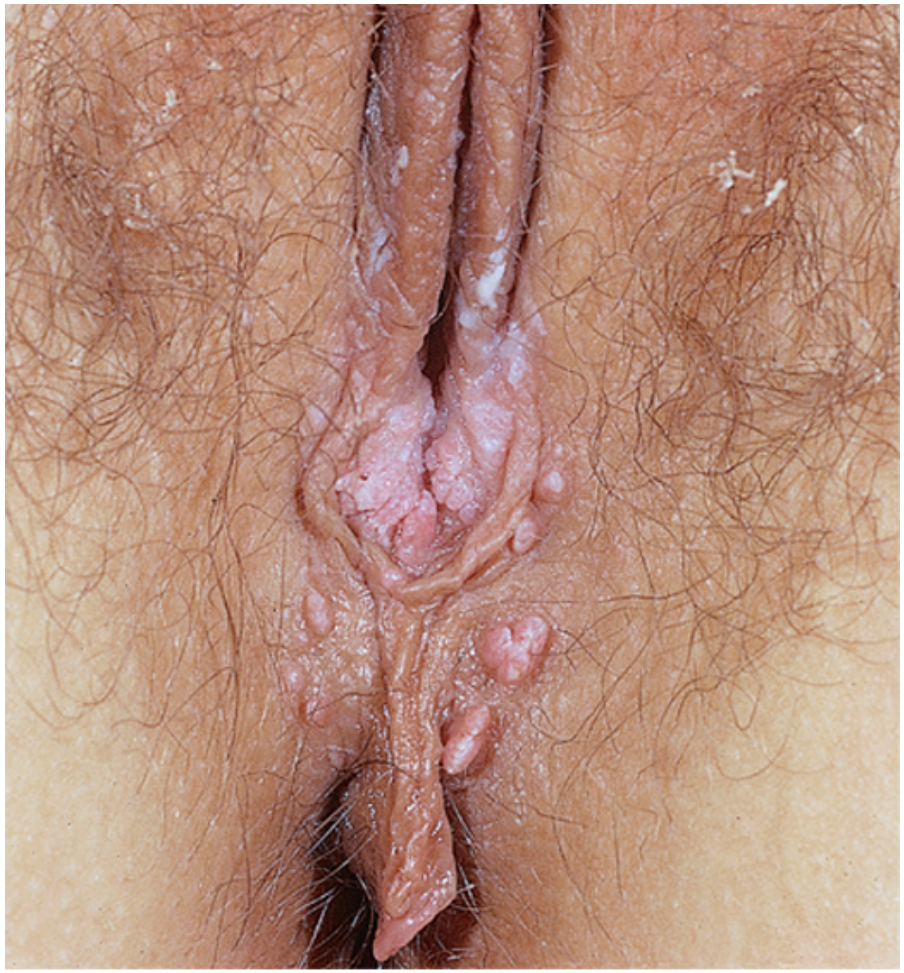


Source: Carol Soutor, Maria K. Hordinsky:
Clinical Dermatology

HPV warts female



Source: Carol Soutor, Maria K. Hordinsky:
Clinical Dermatology

Human Papilloma virus(HPV)

Prevention:

- **Bi-valent vaccine** (16 &18)
- **quadrivalent vaccine** (6,11,16 &18) **"Gardasil"**
- **nonavalent vaccine** (6,11,16,18, 31, 33, 45, 52, and 58)

Vaccination recommendation:

Advisory Committee on Immunization Practices (ACIP) **recommends:**

- **Routine HPV vaccination at age11 or 12 years**.
- Vaccination **can be given starting at age 9 years**.
- Vaccination for **females through age 26 years** and **for males through age 21 years who were not adequately vaccinated previously**.
- Males aged 22 through 26 years may be vaccinated.

Trichomoniasis

- Most common curable STI. ***Trichomonas vaginalis***
- Affects women more than men
- **Modes of transmission** :
  - Sexual contact
  - Mother to child

Signs and Symptoms:

Men (Usually asymptomatic)	Women
Urethral Discharge	Vaginal discharge (Yellow-green, malodourous, frothy yellowish)
Frequency	Small hemorrhagic areas on the cervix (Strawberry cervix)

Treatment:

- Treat even if asymptomatic
- **Metronidazole**
- Symptomatic pregnant women should be treated with 2 g **metronidazole once**

Chancroid

Haemophilus ducreyi

- It is more commonly seen in heterosexual men than in women, **uncircumcised males**
- 3–7 days after sexual intercourse
- Cases are most probably related to foreign travel. (Africa)
- **Modes of transmission** :
  - Sexual contact

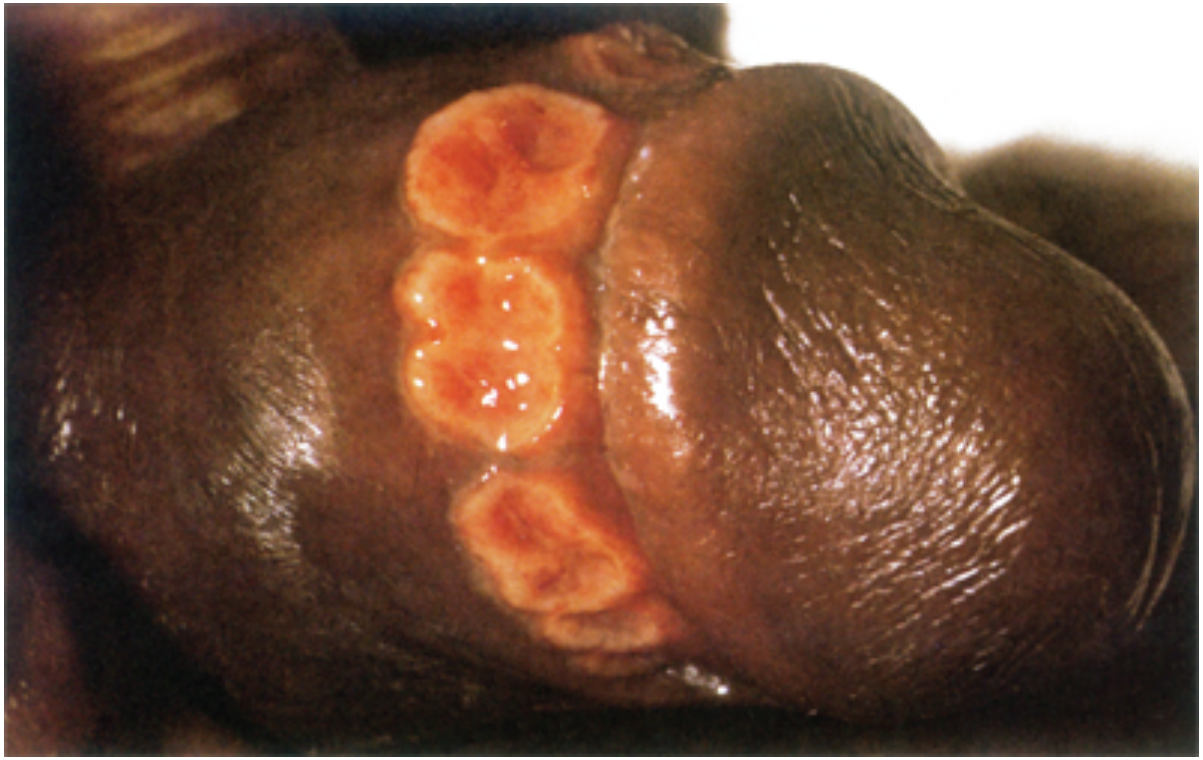
Signs and Symptoms:

- Soft painful ulcers on the genitals
- painful swollen lymph glands
- The site of most infections in men is the foreskin

Investigation:

- Culture
- PCR
- clinical features are typical + rolling out other STIs particularly syphilis and HSV

Haemophilus ducreyi (Chancroid)



Treatment of **Chancroid**

Management:

- **Azithromycin**

OR

- **Ceftriaxone** intramuscularly (IM)

OR

- **Ciprofloxacin** 3 days

OR

- **Erythromycin** 7 days (pregnancy or lactating women)

- Prevents transmission to others

	Signs and Symptoms	Investigations	Treatment	Complications
Gonococcal Urethritis/ Cervicitis (*Neisseria gonorrhoeae*)	M: urethral discharge, unexplained pyuria, dysuria, irritation, testicular swelling, Sx of epididymitis F: mucopurulent endocervical discharge, vaginal bleeding, dysuria, pelvic pain, dyspaurenia M and F: often asymptomatic, can involve rectal symptoms in cases of unprotected anal sex	M: urethral swab for Gram stain and culture F: urine PCR, endocervical swab for Gram stain and culture, vaginal swab for wet mount (to rule out trichomonas) M and F: urine PCR, rectal/ pharyngeal swabs if indicated	Ceftriaxone 250 mg IM single dose* If risk factors for treatment failure (e.g. pregnancy, pharyngeal/rectal infection, potentially reduced susceptibility) Test of cure: culture 4 d post-treatment (preferred) or urine PCR 2 wk post treatment (alternative) If no risk factors, rescreen 6-12 months post treatment	M: urethral strictures, epididymitis, infertility F: PID, infertility, ectopic pregnancy, perinatal infection, chronic pelvic pain M and F: Arthritis, increased risk of acquiring and transmitting HIV
Non-Gonococcal Urethritis/Cervicitis (Usually *Chlamydia trachomatis***)	~70% asymptomatic If symptoms appear (usually 2-6 wk after infection) then similar to gonococcal symptoms (see above)	Same as above	Azithromycin 1 g PO single dose + gonococcal urethritis/cervicitis Rx* Same follow-up as above	Same as above
Human Papillomavirus (genital warts, cervical dysplasia)	Most are asymptomatic M: cauliflower lesions (condylomata acuminata) on skin/mucosa of penile or anal area F: cauliflower lesions and/or pre-neoplastic/neoplastic lesions on cervix/vagina/vulva	None needed if simple condylomata Potential biopsy of suspicious lesions F: screening for cervical dysplasia through regular Pap smears	For condylomata: cryotherapy, electrocautery, laser excision, topical therapy (patient-applied or office-based) For cervical dysplasia: colposcopy and possible excision, dependent on grade of lesion	M and F: anal cancer MSM and F who have receptive anal sex: rectal cancer F: cervical/vaginal/vulvar cancer
Genital Herpes (HSV-1 and -2)	1° episode: painful vesicoulcerative genital lesions ± fever, tender lymphadenopathy, protracted course Recurrent episodes: less extensive lesions, shorter course may have "trigger factors"	Swab of vesicular content for culture, type-specific serologic testing for HSV-1 vs. HSV-2 antibodies and to determine 1° vs. recurrent episode	<u>1° Episode</u> Acyclovir 200 mg PO 5x/d x 5-10 d or Famciclovir 250 mg PO tid x 5 d or Valacyclovir 1,000 mg PO bid x 10 d <u>Recurrent Episode</u> Acyclovir 200 mg PO 5x/d x 5d or 800 mg PO tid x 2 d or Famciclovir 125 mg PO bid x 5 d or Valacyclovir 500 mg PO bid x 3 d or 1,000 mg PO OD x 3 d	Genital pain, urethritis, cervicitis, aseptic meningitis, increased risk of acquiring and transmitting HIV
Infectious Syphilis (*Treponema pallidum*)	1°: chancre (painless sore), regional lymphadenopathy 2°: rash and flu-like symptoms, meningitis, H/A, uveitis, retinitis, condyloma lata, mucus lesions, alopecia Latent Phase: asymptomatic 3°: neurologic, cardiovascular, and tissue complications	Specimen collection from 1° and 2° lesions, screen high risk individuals with serologic syphilis testing (VDRL), universal screening of pregnant women	Benzathine penicillin G IM (dose depends on stage and patient population. Check Public Health Canada guidelines) Notify partners (last 3-12 mo) Continuous follow-up and testing until patients are seronegative	Chronic neurologic and cardiovascular sequelae, increased risk of acquiring and transmitting HIV

3.

Methods of prevention

Who is at risk ?

Risk factors:

- **Sexually active** males and females <25 yr old
- **Unprotected sex**, sexual contact with a known case of STI
- New sexual partner or **>2 sexual partners** in the past 12 mo
- Street involved, homeless, and/or **substance abuse**
- Travel
- Alcohol
- Sexual abuse
- Prior STI
- Homosexual
- People who have come from areas of high HIV prevalence
- Early onset of sexual activity.
- Unprotected sex

General management:

- **primary prevention** is vastly more effective:

Abstinence is 100% effective method to prevent All form of STIs.

- offer **hepatitis B vaccine** if not immune /spouse of a person with **HBsAg +ve**.
- **discuss STI risk factors**
- direct advice to **ALWAYS use condoms** or to **abstain** from intercourse
- **condoms are not 100% effective** against HPV or HSV
- not treated until the **management of his/her partner(s) is ensured**.
- patients with STI or trichomonal infection should abstain from sexual activity until treatment completion and **for 7 d** after treatment for both partners, or until test of cure completed
- **Mandatory reporting: CDC Notifiable Diseases**
  - **Chancroid**
  - **Chlamydia**
  - **Gonorrhea**
  - **Hepatitis A, B, C**
  - **HIV**
  - **Syphilis**

Methods of prevention

1. Identification of high-risk patients opportunistically in general practice, e.g. at new patient checks, when attending for travel advice.

2. Discussions and consultations with those at high risk, structured on the basis of behavior changes and other preventive measures aimed at educating them about sexual health.

Methods of prevention

1- Sexual Behavior:

Reduce number of sex partners, Use of condoms.

2- Vaccinations:

For Hepatitis B and HPV.

3- Screening:

e.g. Chlamydia screening.

4.

Complications of sexually transmitted disease

Complications of sexually transmitted disease

1) **N. Gonorrhoeae and Chlamydia trachomatis**:
- **Males**: Urethral strictures, Epididymitis.
- **Females:** PID*, Ectopic pregnancy.
- **Males and Females:** Infertility, Arthritis, Increased risk of acquiring and transmitting HIV.

* Pelvic Inflammatory Disease

2) **Human Papilloma Virus**:
- **Females:** Vulvar/Vaginal/Cervical cancer.
- **Males and Females:** Rectal cancer.

Complications of sexually transmitted disease

3) **Herpes Simplex Virus (HSV-1 and HSV-2)**:
- Genital pain, Urethritis, Cervicitis.
- Aseptic meningitis.
- Increased risk of acquiring and transmitting HIV.

4) **Treponema pallidum (Syphilis)**:
- Chronic neurologic and cardiovascular sequelae.
- Increased risk of acquiring and transmitting HIV.

5) **HIV/AIDS**:
- Tuberculosis, Cytomegalovirus, Toxoplasmosis.
- Kaposi's sarcoma.

MCQs

1) What is the incubation period of Chlamydia trachomatis?

A) 1-3 Days.

B) 3-7 Days.

C) 1-3 weeks.

D) 1-2 Months.

2) What is the most contagious stage of syphilis to sex partners?

A) Primary stage.

B) Secondary stage.

C) Primary and secondary stages.

D) None.

3) What organ is commonly involved in tertiary syphilis?

A) Brain.

B) Kidney.

C) Liver.

D) Pancreas.

MCQs

4) Which one of the following is used to manage patients with Gonococcal cervicitis?

A) Ceftriaxone.
B) Metronidazole.
C) Metronidazole and Doxycycline.
D) Ceftriaxone and Doxycycline.

5) Condylomata acuminata is characteristic feature of which of the following STIs?

A) Herpes simplex virus (HSV).
B) Human papilloma virus (HPV).
C) Human immunodeficiency virus (HIV).
D) Chlamydia trachomatis.

6) What of the following is a complication of Human papilloma virus (HPV)?

A) Ectopic pregnancy.
B) Aseptic meningitis.
C) Cervical cancer.
D) Kaposi's sarcoma.

References

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Thank You

Any Qs ?