Sexually Transmitted Diseases (STDs)

Sexually transmitted diseases (STDs) are infections transmitted person-to-person through sexual intercourse. Patients with one STD should be tested for other STDs. STDs include: gonorrhoea, chlamydia, syphilis, genital herpes, blood-borne viruses and pelvic inflammatory disease (PID - an acute infection of the female upper genital tract). **Note:** PID is an infection in women caused by the vaginal flora ascending to infect any of the pelvic contents. It is not necessarily an STD although it is considered here for simplicity. PID includes endometritis, salpingitis, parametritis, oophoritis, tubo-ovarian abscess and pelvic peritonitis.

> **Common Mistake**
> The very young to the very old can present with STDs. Doctors sometimes avoid taking a sexual history for fear of offending the patient. **This is a mistake**. If asked in a sensitive manner, patients are rarely offended. If you suspect an STD take a sexual history to assess the risk of infection; it's less embarrassing to ask the questions than to miss a treatable infection.

Clinical Features

Male	• May be asymptomatic • Urethral discharge • Dysuria
Female	• May be asymptomatic • Vaginal discharge • Abdominal pain • Dysuria • Uterine bleeding • Infertility • Fever • Pruritis • Fitz-Hugh-Curtis Syndrome (right upper quadrant pain associated with perihepatitis)
Early Syphilis (present ≤2 years) Late Syphilis (present >2 years)	**Primary** (infection at the point of inoculation) • Gumma – painless swelling or punched out ulcer with regional lymphadenopathy **Secondary** (infection has spread from the primary site) • Usually rash **PLUS** lymphadenopathy but can mimic any other infection

Causes

Chlamydia	• *Chlamydia trachomatis*
Gonorrhoea	• *Neisseria gonorrhoeae*
Genital Herpes	• *Herpes Simplex Virus* (HSV)
Syphilis	• *Treponema pallidum*
Pelvic Inflammatory Disease (PID)	• Can be any of the above or polymicrobial with enteric flora
Blood-borne Viruses	• *Hepatitis B Virus* • *Hepatitis C Virus* • *Human Immunodeficiency Virus* (HIV)

Investigations

No test is 100% sensitive or specific for STDs. Nucleic acid amplification tests (NAATs) are the test of choice for gonorrhoea and chlamydia. Culture can also be performed to obtain antibiotic sensitivities for *Neisseria gonorrhoeae*.

- Men
  - First pass urine for NAATs
  - Urethral or meatal swab for culture for *Neisseria gonorrhoeae*
- Women
  - Vaginal or endocervical swabs for NAATs and culture for *Neisseria gonorrhoeae*
  - For PID send urethral or vaginal discharge for culture and sensitivity
- Viral swab for HSV (green viral swab)
- Blood for syphilis serology, Hepatitis B, C and HIV

Treatment

Patients being treated for STDs should be advised to avoid sexual intercourse until after treatment completed or 7 days after Azithromycin

Chlamydia	
1st line	PO Doxycycline 100mg BD for 7 days **OR** PO Azithromycin 1g single dose
2nd line (if 1st line contraindicated)	PO Erythromycin 500mg BD 10-14 days

Gonorrhoea	
1st line	IM Ceftriaxone 500mg single dose **PLUS** PO Azithromycin 1g single dose
2nd line (if 1st line contraindicated)	PO Azithromycin 2g single dose **OR** PO Ciprofloxacin 500mg single dose

Note: Test of cure is recommended in all cases of gonorrhoea either with culture at 72 hours post treatment (if still symptomatic) or with NAATs 2 weeks post treatment (if asymptomatic).

Genital Herpes	
1st line	Not normally treated, as acute exacerbations are self-limiting Genital Herpes cannot be completely cured If extensive painful ulceration, treat with PO Aciclovir 400mg TDS for 5 days or IV Aciclovir 5mg/kg TDS for 5 days

Syphilis	
Early (present ≤2 years)	IM Benzathine penicillin G 2.4MU single dose
Late (present >2 years)	IM Benzathine penicillin G 2.4MU 1 dose per week for 3 weeks

Pelvic Inflammatory Disease (PID)	
1st line Mild (Outpatient)	IM Ceftriaxone stat **PLUS** PO Doxycycline for 14 days **PLUS** PO Metronidazole for 5 days
2nd line Mild (Outpatient)	PO Ofloxacin for 14 days **PLUS** PO Metronidazole for 5 days
1st line Severe (Inpatient)	IV Ceftriaxone, treat until afebrile for 48 hours **PLUS** PO Doxycycline for 14 days **PLUS** PO or IV Metronidazole for 5 days
2nd line Severe (if 1st line contraindicated)	IV Clindamycin **PLUS** IV Gentamicin, treat until afebrile for 48 hours **THEN** Doxycycline **AND** Metronidazole as above 1st line Mild

Blood-borne Viruses
See sections – Clinical Scenarios, Hepatitis and Clinical Scenarios, *Human Immunodeficiency Virus* (HIV and AIDS)

Dosing

For PID see section - Antibiotics, Empirical Antibiotic Guidelines.

Prognosis and Complications

- Men – STDs can progress to epididymo-orchitis and prostatitis
- Women – STDS can progress to pelvic inflammatory disease
- *Neisseria gonorrhoeae* disseminates in 1% of genital infections to cause rash, fever, septic arthritis and sepsis
- Tertiary syphilis or reactivation of syphilis is rare but can occur up to 20 years after primary infection
- PID can lead to infertility, ectopic pregnancies and chronic pelvic pain

Prophylaxis and Prevention

Contact tracing and treatment to prevent further transmission of STDs, via the Genitourinary Medicine (GUM) service.