PHC Chapter 12: Sexually transmitted infections

12.1 Vaginal discharge syndrome (VDS)
12.1.1 Sexually non-active women
12.1.2 Sexually active women
12.2 Lower abdominal pain (LAP)
12.3 Male urethritis syndrome (MUS)
12.4 Scrotal swelling (SSW)
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12.6 Bubo
12.7 Balanitis/balanoposthitis (BAL)
12.8 Syphilis serology and treatment
12.9 Treatment of more than one STI syndrome
12.10 Treatment of partners
12.11 Genital molluscum contagiosum (MC)
12.12 Genital warts (GW): Condylomata Accuminata
12.13 Pubic lice (PL)

The syndromic approach to Sexually Transmitted Infections (STIs) diagnosis and management is to treat the signs or symptoms (syndrome) of a group of diseases rather than treating a specific disease. This allows for the treatment of one or more conditions that often occur at the same time and has been accepted as the management of choice.

Causative organisms and medicine management for STI syndromes:

ORGANISM	SYNDROME/S	MEDICINE MANAGEMENT
Neisseria gonorrhoeae	VDS, MUS, LAP	ceftriaxone + azithromycin *LoE:III*[269]
Chlamydia trachomatis	VDS, MUS, LAP, GUS, Bubo	azithromycin
Trichomonas vaginalis	VDS, LAP	metronidazole
Bacterial vaginosis (overgrowth of *Gardnerella vaginalis*, lactobacillus, anaerobes etc.)	VDS	metronidazole
Candida albicans	VDS	clotrimazole
Treponema pallidum	GUS	doxycycline/ benzathine benzylpenicillin
Herpes simplex	GUS	aciclovir
Haemophilus ducreyi	GUS, Bubo	azithromycin

It is important to take a good sexual history and undertake a thorough ano-genital examination in order to perform a proper clinical assessment. The history should include questions concerning symptoms, recent sexual history, sexual orientation, type of sexual activity (oral, vaginal, anal sex), the possibility of pregnancy (females), use of contraceptives including condoms, recent antibiotic history, antibiotic allergy, recent overseas travel and domestic violence. Refer to a social worker, as required.

Note: Standard referral letter for treatment failure must include the following:

» reason for referral: presumptive diagnosis (e.g. persistent cervicitis with suspected resistant gonorrhoea)
» clinical findings including speculum examination for vaginal discharge
» treatment history (including all medicines with dose and duration)
» details of notification and treatment history of partner(s)

Suspected STI in children should be referred to hospital for further investigation and management.

GENERAL MEASURES

» **C**ounselling and education, including HIV testing.
» **C**ondom promotion, provision and demonstration to reduce the risk of STIs.
» **C**ompliance/ adherence with treatment.
» **C**ontact treatment/ partner management.
» **C**ircumcision promotion (counselling to continue condom use).
» **C**ervical cancer screening.

Promote HIV counselling and testing.
For negative test results repeat test after 6 weeks, because of the window period.

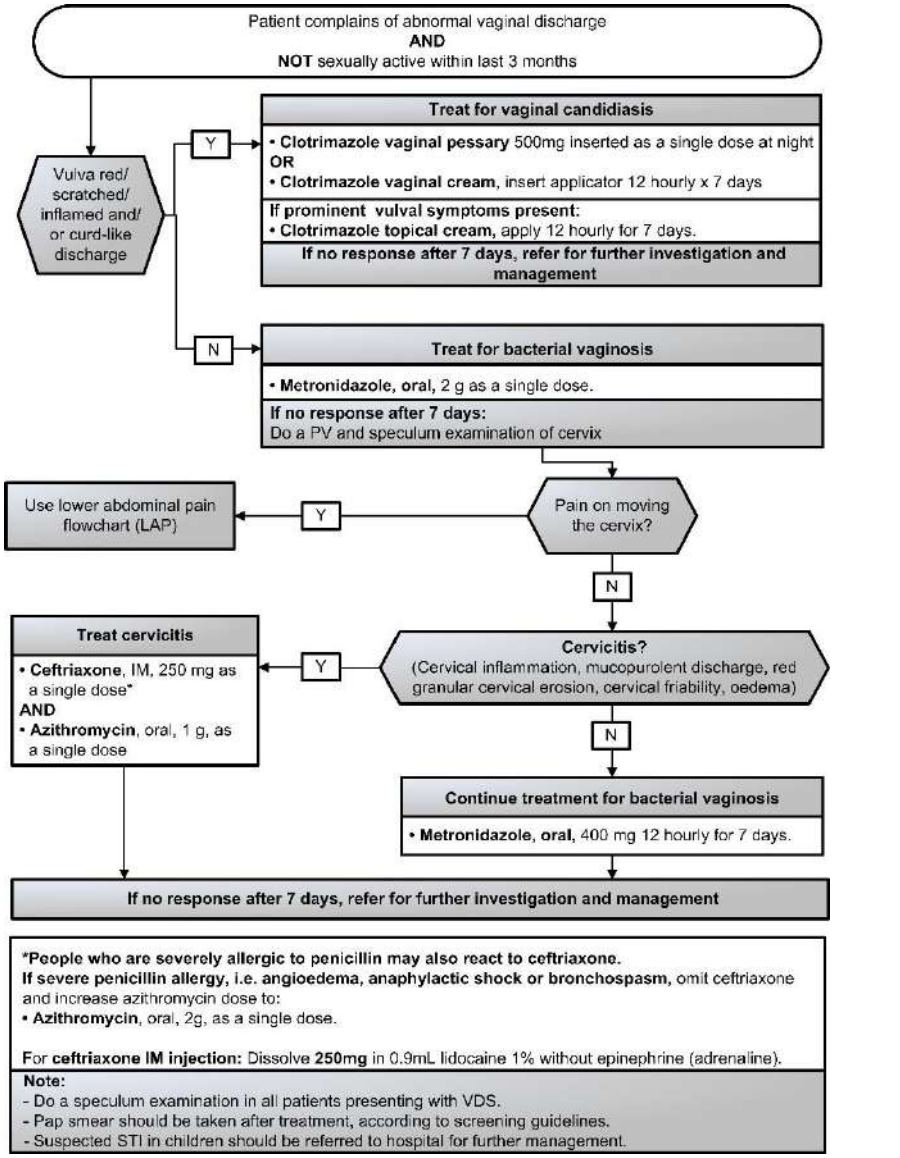
Benzathine benzylpenicillin

Benzathine benzylpenicillin remains the recommended treatment for syphilis. However, due to global shortage of benzathine benzylpenicillin (limited global supply of the active pharmaceutical ingredient) the algorithms now recommend doxycycline, oral except in pregnant women and children. Azithromycin is not recommended for the treatment of syphilis in pregnancy as azithromycin does not effectively treat syphilis in the fetus, and resistance develops rapidly to macrolides. Therefore, the limited stock of benzathine benzylpenicillin must be reserved for use in pregnant women and children.

12.1 VAGINAL DISCHARGE SYNDROME (VDS)

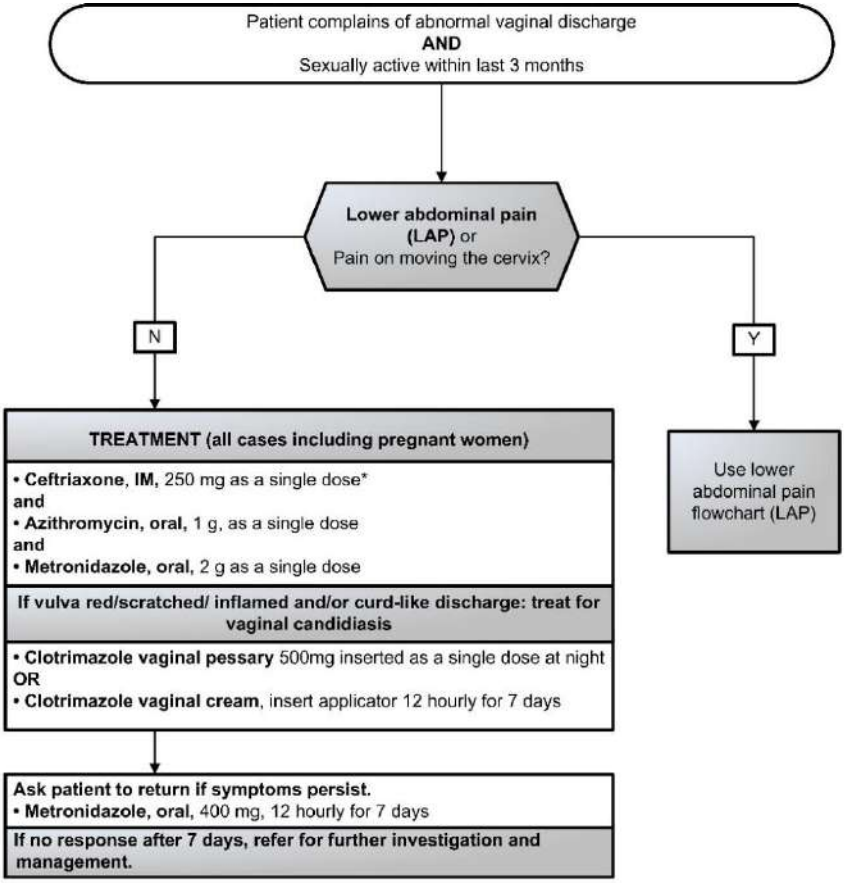
B37.3/N76.0/N89.8

12.1.1 SEXUALLY NON-ACTIVE WOMEN



LoE:III[270]

12.1.2 SEXUALLY ACTIVE WOMEN



*People who are severely allergic to penicillin may also react to ceftriaxone.
If severe penicillin allergy, i.e. angioedema, anaphylactic shock or bronchospasm, omit ceftriaxone and increase azithromycin dose to:
• **Azithromycin,** oral, 2 g, as a single dose.

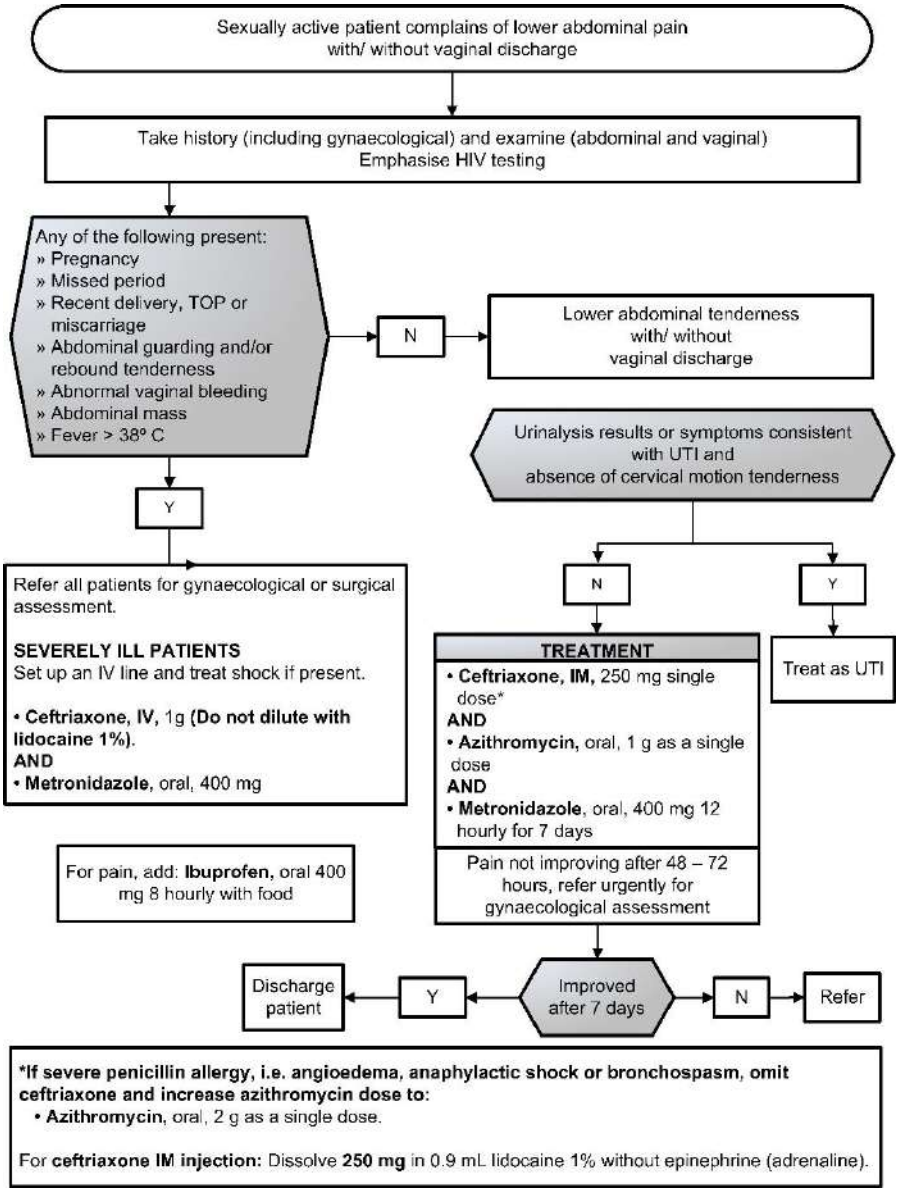
For **ceftriaxone IM injection:** Dissolve **250 mg** in 0.9 mL lidocaine 1% without epinephrine (adrenaline).

Note:
- Do a speculum examination in all patients presenting with VDS.
- Pap smear should be taken after treatment, according to screening guidelines.
- Suspected STI in children should be referred to hospital for further management.

LoE:III[271]

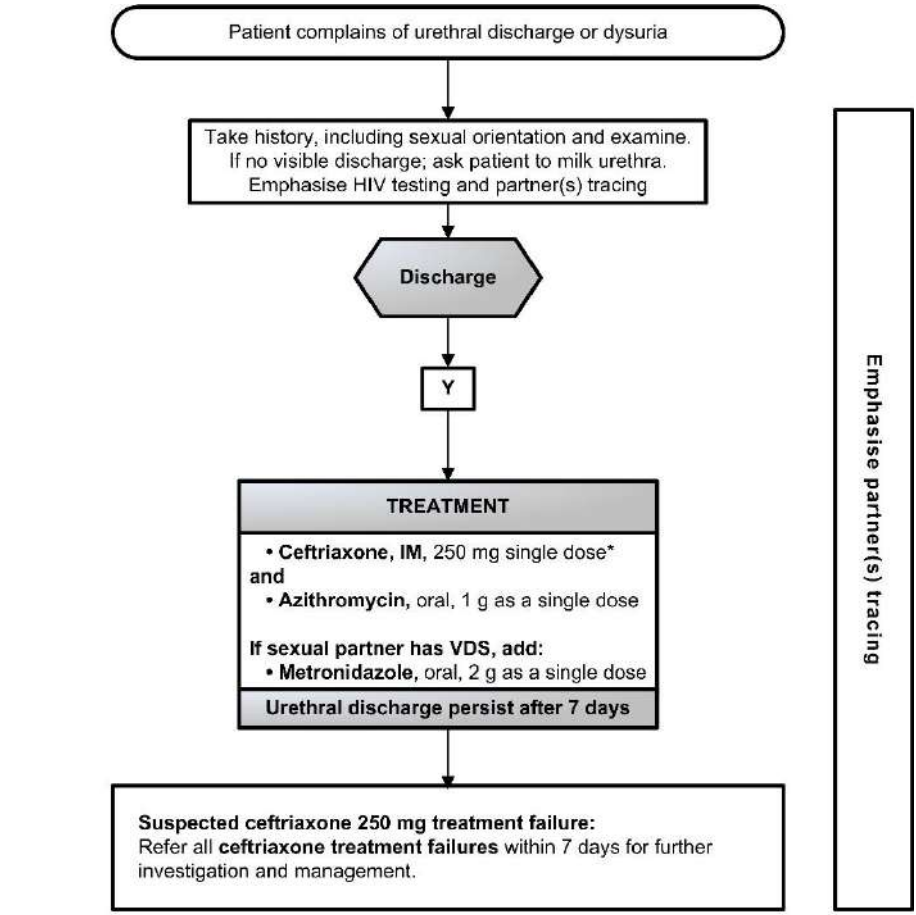
12.2 LOWER ABDOMINAL PAIN (LAP)

N73.9



12.3 MALE URETHRITIS SYNDROME (MUS)

A64 + N34.1



***If severe penicillin allergy, i.e. angioedema, anaphylactic shock or bronchospasm, omit ceftriaxone and increase azithromycin dose to:**

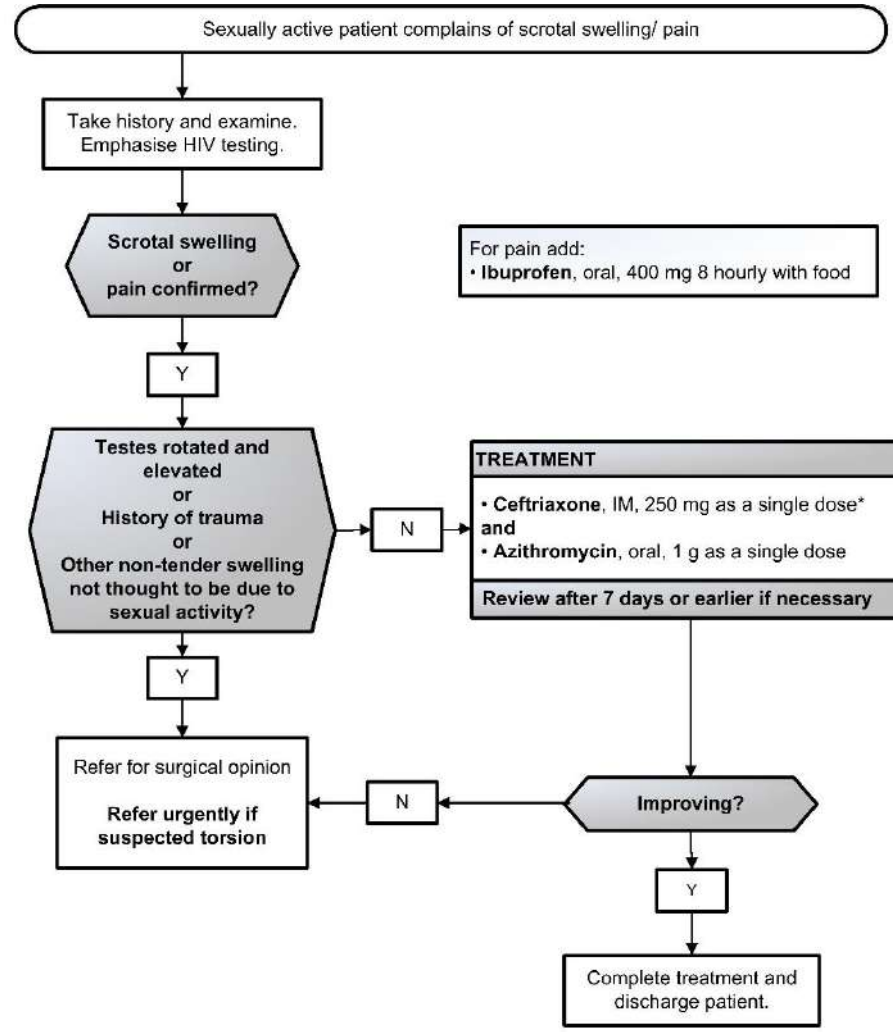
- **Azithromycin,** oral, 2 g as a single dose.

For **ceftriaxone IM injection:**

- Dissolve ceftriaxone **250 mg** in 0.9 mL lidocaine 1% without epinephrine (adrenaline).

12.4 SCROTAL SWELLING (SSW)

N45.1



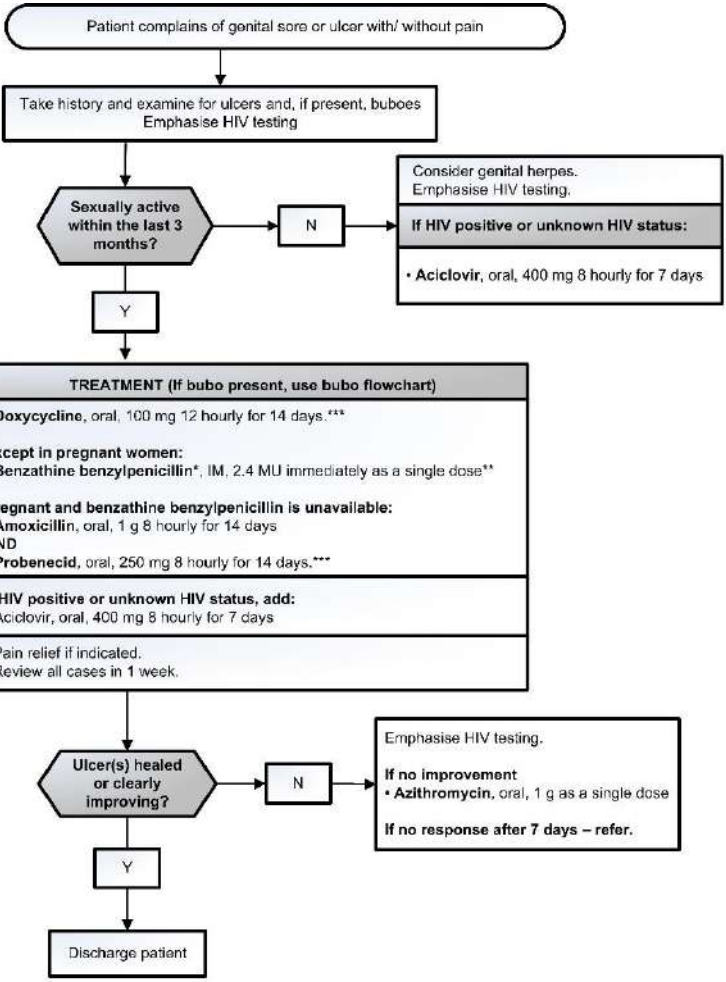
***If severe penicillin allergy, i.e. angioedema, anaphylactic shock or bronchospasm, omit ceftriaxone and increase azithromycin dose to:**
• **Azithromycin,** oral, 2 g as a single dose.

For **ceftriaxone IM injection:** dissolve **250 mg** in 0.9 mL lidocaine 1% without epinephrine (adrenaline).

12.5 GENITAL ULCER SYNDROME (GUS)

A60.9/A51.0

LoE:III[272]



*Penicillin allergic pregnant women: refer for confirmation of new syphilis infection and possible penicillin desensitisation.

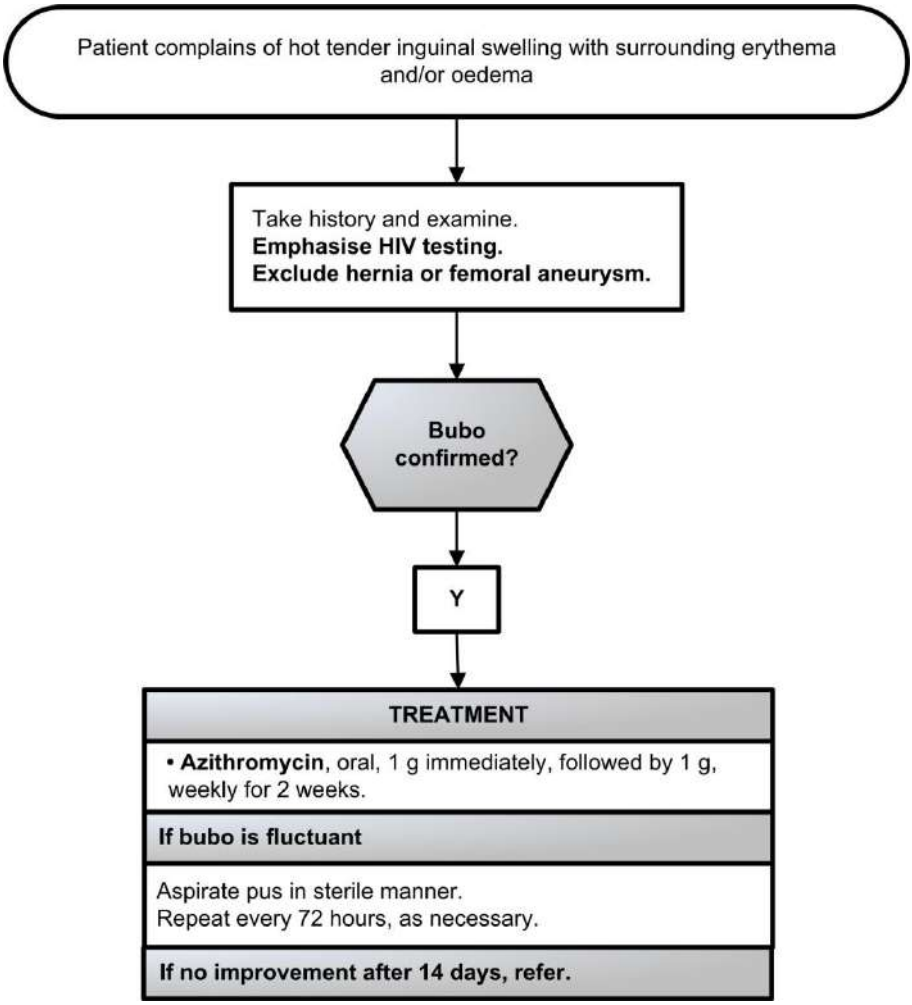
For **benzathine benzylpenicillin, IM, 2.4 MU: Dissolve benzathine benzylpenicillin **2.4 MU** in 6 mL lidocaine 1% without epinephrine (adrenaline).

Note: Pregnant women presenting with genital ulcer(s) in the third trimester should be referred (risk of neonatal herpes).

LoE:II[273]

12.6 BUBO

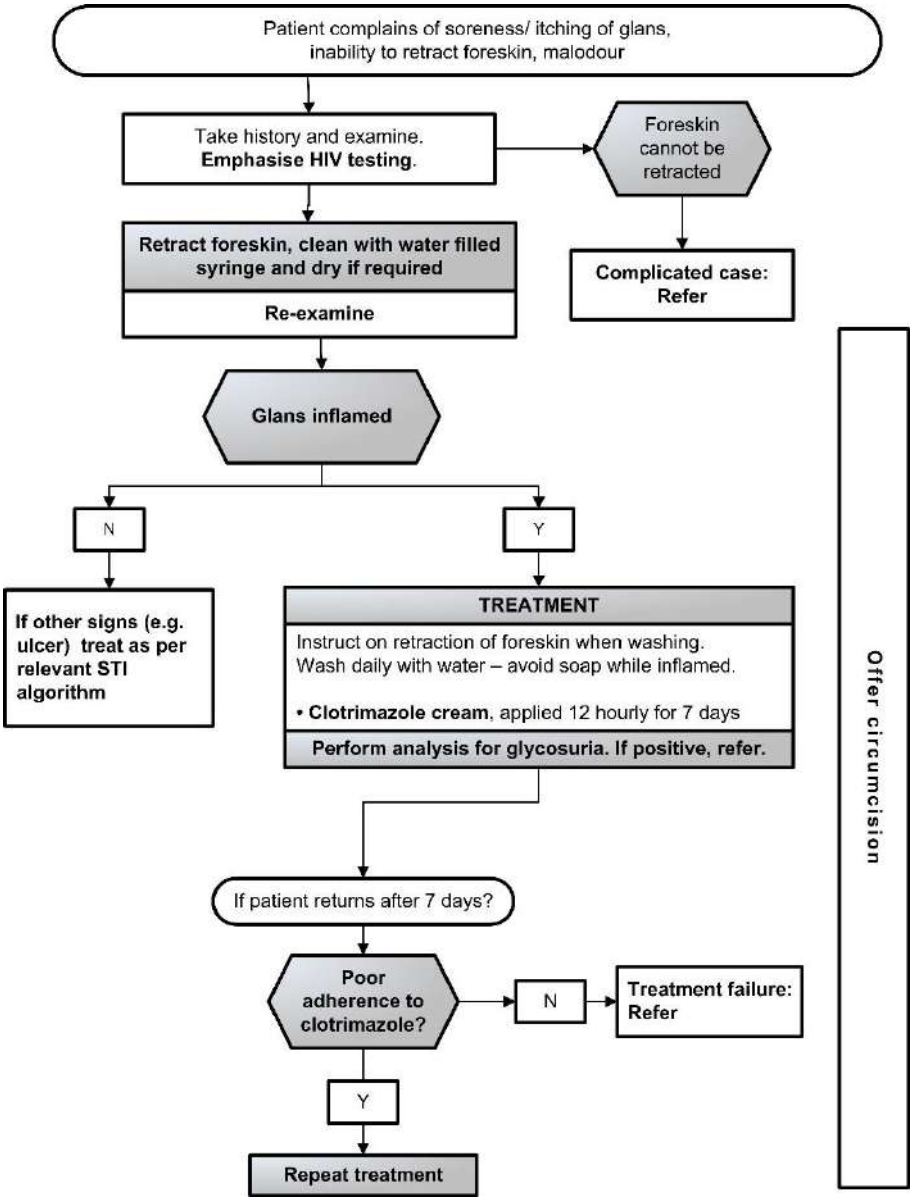
A58



LoE:III[274]

12.7 BALANITIS/BALANOPOSTHITIS (BAL)

N48.1



12.8 SYPHILIS SEROLOGY AND TREATMENT

A53.9

Syphilis serology

The Rapid Plasmin Reagin (RPR) measures disease activity, but is not specific for syphilis. False RPR-positive reactions may occur, notably in patients with connective tissue disorders (false positive reactions are usually low titre <1:8). For this reason, positive RPR results should be confirmed due to syphilis by further testing of the serum with a specific treponemal test, e.g.:

» *Treponema pallidum* haemagglutination (TPHA) assay.
» *Treponema pallidum* particle agglutination (TPPA) assay.
» Fluorescent Treponemal Antibody (FTA) assay.
» *Treponema pallidum* ELISA.
» Rapid treponemal antibody test (TPAb)

Screening can also be done the other way around starting with a specific treponemal test followed by a RPR in patients who have a positive specific treponemal test. This is sometimes referred to as the "reverse algorithm".

- Once positive, specific treponemal tests generally remain positive for life and therefore the presence of specific treponemal antibodies cannot differentiate between current and past infections
- A person with previously successfully treated syphilis will retain lifelong positive specific treponemal test results.

The RPR can be used:

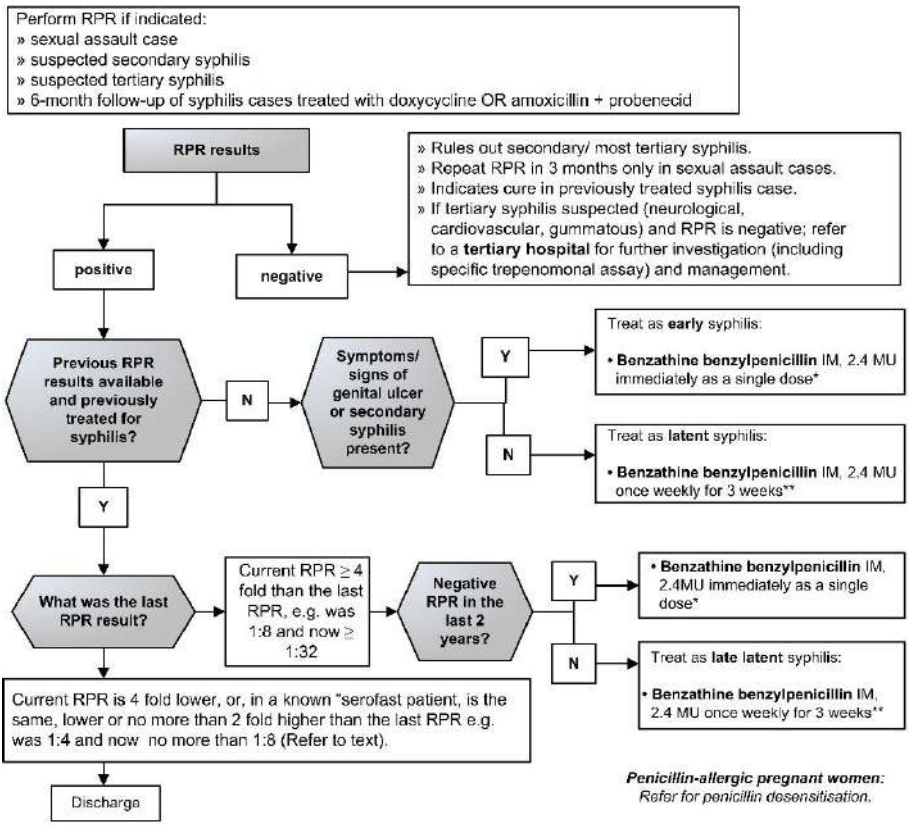
» To determine if the patient's syphilis disease is active or not,
» To measure a successful response to therapy (at least a fourfold reduction in titre, e.g. 1:256 improving to 1:64), or
» To determine a new re-infection.

Some patients, even with successful treatment for syphilis, may retain life-long positive RPR results at low titres (≤1:8), which do not change by more than one dilution difference (up or down) over time (so-called serofast patients).

Note:

» Up to 30% of early primary syphilis cases, i.e. those with genital ulcers may have a negative RPR.
» The RPR is always positive in the secondary syphilis stage and remains high during the first two (infectious) years of syphilis. *LoE:II*[275]

For syphilis treatment in pregnancy, see Section 6.4.4: Syphilis in pregnancy.



*Early syphilis treatment:

Severe penicillin allergy or benzathine benzylpenicillin is unavailable:

- **Doxycycline,** oral, 100 mg 12 hourly for 14 days.

Pregnant or benzathine benzylpenicillin is unavailable:

- **Amoxicillin**, oral, 1 g 8 hourly for 14 days

AND

- **Probenecid**, oral 250 mg 8 hourly for 14 days.

**Latent/ late latent syphilis treatment:

Severe penicillin allergy or benzathine benzylpenicillin is unavailable:

- **Doxycycline**, oral, 100 mg 12 hourly for 30 days.

Pregnant or benzathine benzylpenicillin is unavailable:

- **Amoxicillin**, oral, 1 g 8 hourly for 28 days

AND

- **Probenecid,** oral 250 mg 8 hourly for 28 days.

For **benzathine benzylpenicillin**, IM, 2.4 MU: Dissolve **2.4 MU** in 6 mL lidocaine 1% without epinephrine (adrenaline).

MEDICINE TREATMENT

Early syphilis treatment

Check if treated at initial visit.

- Benzathine benzylpenicillin, IM, 2.4 MU immediately as a single dose.
  - Dissolve benzathine benzylpenicillin, IM, 2.4 MU in 6 mL lidocaine 1% without adrenaline (epinephrine).

In penicillin-allergic patients or if benzathine benzylpenicillin is unavailable:

Z88.0

- Doxycycline, oral, 100 mg 12 hourly for 14 days. *LoE:III*[276]

If pregnant and benzathine benzylpenicillin is unavailable:

- Amoxicillin, oral 1 g 8 hourly for 14 days (Doctor initiated).

AND

- Probenecid, oral 250 mg, 8 hourly for 14 days (Doctor initiated). *LoE:III*[277]

If penicillin-allergic and pregnant: Refer for penicillin desensitisation.

Late/ late latent syphilis treatment

Check if treatment was commenced at initial visit.

- Benzathine benzylpenicillin, IM, 2.4 MU once weekly for 3 weeks.
  - Dissolve benzathine benzylpenicillin, IM, 2.4 MU in 6 mL lidocaine 1% without adrenaline (epinephrine).

In penicillin-allergic patients or if benzathine benzylpenicillin is unavailable:

Z88.0

- Doxycycline, oral, 100 mg 12 hourly for 30 days. *LoE:III*[278]

If pregnant and benzathine benzylpenicillin is unavailable:

- Amoxicillin, oral 1 g 8 hourly for 28 days (Doctor initiated).

AND

- Probenecid, oral 250 mg, 8 hourly for 28 days (Doctor initiated). *LoE:III*[279]

If penicillin-allergic and pregnant: Refer for penicillin desensitisation.

REFERRAL

» Tertiary syphilis: neurosyphilis, cardiovascular syphilis; gummatous syphilis.
» Clinical congenital syphilis.

12.9 TREATMENT OF MORE THAN ONE STI SYNDROME

STI SYNDROMES	TREATMENT (NEW EPISODE)
MUS + SSW	Treat according to SSW flow chart.
MUS + BAL	Treat according to MUS flow chart. **AND** • Clotrimazole cream, 12 hourly for 7 days.
MUS + GUS	• Ceftriaxone, IM, 250 mg immediately as a single dose. **AND** • Azithromycin, oral, 1 g as a single dose. **AND** • Aciclovir, oral, 400 mg 8 hourly for 7 days*.

VDS + LAP	Treat according to LAP flow chart. **AND** Treat for candidiasis, if required (see VDS flow chart).
VDS + GUS	• Ceftriaxone, IM, 250 mg immediately as a single dose. **AND** • Metronidazole, oral, 2 g immediately as a single dose. **AND** • Azithromycin, oral, 1 g as a single dose. **AND** • Aciclovir, oral, 400 mg 8 hourly for 7 days*. **AND** Treat for candidiasis, if required (see VDS flow chart).
LAP+ GUS	• Ceftriaxone, IM, 250 mg immediately as a single dose. **AND** • Metronidazole, oral, 400 mg 12 hourly for 7days. **AND** • Aciclovir, oral, 400 mg 8 hourly for 7 days*. **AND** • Azithromycin, oral, 1 g as a single dose.
SSW+ GUS	• Ceftriaxone, IM, 250 mg immediately as a single dose. **AND** • Aciclovir, oral, 400 mg 8 hourly for 7 days*. **AND** • Azithromycin, oral, 1 g as a single dose.
***Treat with aciclovir only if HIV status is positive or unknown.** ****Penicillin allergic men and non-pregnant women avoid ceftriaxone and refer to relevant algorithms.** **Penicillin allergic pregnant/breastfeeding women, refer for penicillin desensitisation.**	

12.10 TREATMENT OF PARTNERS

Syndrome	Asymptomatic partner	Symptomatic partner
VDS	• Ceftriaxone, IM, 250 mg immediately as a single dose. **AND** • Metronidazole, oral, 2 g immediately as a single dose. **AND** • Azithromycin, oral, 1 g as a single dose.	• Ceftriaxone, IM, 250 mg immediately as a single dose. **AND** • Metronidazole, oral, 2 g immediately as a single dose. **AND** • Azithromycin, oral, 1 g as a single dose. PLUS treatment for syndrome present if not included in the above.
LAP	• Ceftriaxone, IM, 250 mg immediately as a single dose. **AND** • Metronidazole, oral, 2 g immediately as a single dose. **AND**	• Ceftriaxone, IM, 250 mg immediately as a single dose. **AND** • Metronidazole, oral, 2 g immediately as a single dose. **AND**

	• Azithromycin, oral, 1 g as a single dose.	• Azithromycin, oral, 1 g as a single dose. PLUS treatment for syndrome present if not included in the above.
MUS	• Ceftriaxone, IM, 250 mg immediately as a single dose. **AND** • Azithromycin, oral, 1 g as a single dose.	• Ceftriaxone, IM, 250 mg immediately as a single dose. **AND** • Azithromycin, oral, 1 g as a single dose. PLUS treatment for syndrome present if not included in the above (see VDS flow chart).
Scrotal swelling	• Ceftriaxone, IM, 250 mg immediately as a single dose. **AND** • Azithromycin, oral, 1 g as a single dose.	• Ceftriaxone, IM, 250 mg immediately as a single dose. **AND** • Azithromycin, oral, 1 g as a single dose. PLUS treatment for syndrome present if not included in the above.
GUS	• Doxycycline, oral, 100 mg 12 hourly for 14 days. Except pregnant women: • Benzathine benzylpenicillin, IM, 2.4 MU immediately as a single dose. o Dissolve benzathine benzylpenicillin, IM, 2.4 MU in 6 mL lidocaine 1% without epinephrine (adrenaline). (If pregnant and benzathine benzylpenicillin is unavailable, see syphilis flow chart).	• Doxycycline, oral, 100 mg 12 hourly for 14 days. Except pregnant women: • Benzathine benzylpenicillin, IM, 2.4 MU immediately as a single dose. o Dissolve benzathine benzylpenicillin, IM, 2.4 MU in 6 mL lidocaine 1% without epinephrine (adrenaline). PLUS treatment for syndrome present if not included in the above. (If pregnant and benzathine benzylpenicillin is unavailable, see syphilis flow chart).
Bubo	• Azithromycin, oral, 1 g as a single dose.	• Azithromycin, oral, 1 g as a single dose. PLUS treatment for syndrome present if not included in the above.

LoE:III[280]

12.11 GENITAL MOLLUSCUM CONTAGIOSUM (MC)

B08.1

DESCRIPTION

This is a viral infection which can be transmitted sexually and non-sexually. It is usually self-limiting but can be progressive in an advanced stage of immunodeficiency.
Clinical signs include papules at the genitals or other parts of the body.
The papules usually have a central dent (umbilicated papules).

MEDICINE TREATMENT

- Tincture of iodine BP, topical.
  - Apply with an applicator to the core of the lesions.

12.12 GENITAL WARTS (GW): CONDYLOMATA ACCUMINATA

A63.0

DESCRIPTION

The clinical signs include:

» Warts on the ano-genital areas, vagina, cervix, meatus or urethra.
» Warts can be soft or hard.

In most cases, warts resolve without treatment after 2 years in non-immunosuppressed patients.

GENERAL MEASURES

» If warts do not look typical or are fleshy or wet, perform a RPR test to exclude secondary syphilis, which may present with similar lesions.
» Emphasise HIV testing.

REFERRAL

» All patients with:
  - warts > 10 mm
  - inaccessible warts, e.g. intra-vaginal or cervical warts
  - numerous warts

12.13 PUBIC LICE (PL)

B85.3

DESCRIPTION

Infestation of lice mostly confined to pubic and peri-anal areas, and occasionally involves eyelashes.

The bites cause intense itching, which often results in scratching with bacterial super-infection.

GENERAL MEASURES

Thoroughly wash clothing and bed linen that may have been contaminated by the patient in the 2 days prior to the start of treatment in hot water and then iron.

MEDICINE TREATMENT

- Benzyl benzoate 25%
  - Apply to affected area.
  - Leave on for 24 hours, then wash thoroughly.
  - Repeat in 7 days.

Pediculosis of the eyelashes or eyebrows

- Yellow petroleum jelly (Note: Do not use white petroleum jelly near the eyes).
  - Apply to the eyelid margins (cover the eyelashes) daily for 10 days to smother lice and nits.
  - Do not apply to eyes. *LoE:III*

REFERRAL

All children with lice on pubic, perianal area and eyelashes to exclude sexual abuse.