# Syphilis

# BASHH 2024

### **1  Headline 2024 changes**

• Benzathine penicillin + lidocaine licensed and preferred.

• Macrolides removed (23S rRNA‑mediated resistance).

• Ceftriaxone accepted alternative when penicillin unsuitable.

• Expanded use of PCR; serology pathway updated after UK TPPA withdrawal.

• Management of serofast cases refined; LP indications narrowed; ≤14 d gap now tolerated between benzathine doses. fileciteturn4file9

**### 2  Organism & epidemiology**

*Treponema pallidum* subsp. *pallidum*; human‑only reservoir, sexual or trans‑placental transmission. UK incidence rising since 2014, majority GBMSM but marked uptick in heterosexual and female cases.

**### 3  Clinical staging (high‑yield features)**

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| --- | --- | --- | --- |
| **Stage** | **Key clinical points** | **Still infectious?** | **First‑line therapy\*** |
| Primary | Chancre (often painless; may be multiple). Dark‑ground/PCR positive before serology. | ✔ | BP† 2.4 MU IM ×1 |
| Secondary | Rash incl. palms/soles, condylomata lata, alopecia; systemic (uveitis/meningitis). Beware prozone. | ✔ | BP 2.4 MU IM ×1 |
| Early latent (<2 y) | Asymptomatic but transmissible; 4‑fold RPR rise = active. | ✔ | BP 2.4 MU IM ×1 |
| Late latent / tertiary | Gummata, aortitis, tabes dorsalis, paresis. | ✖ | BP 2.4 MU IM weekly ×3^ |

\*Alternatives see §5.

†BP = benzathine penicillin G.

^ gap can be up to 14 days

**### 4  Laboratory diagnosis**

**Direct** – Dark‑ground microscopy (operator‑dependent; avoid oral/rectal) and PCR (higher sensitivity, any site). fileciteturn4file13

**Serology algorithm**

1. EIA/CLIA (IgG ± IgM) screen.
2. Confirm with different treponemal test (TPHA/TPLA or 2nd EIA) + baseline quantitative RPR.
3. RPR ≥1:16 suggests activity; 4‑fold rise = new/relapse; dilute serum to avoid prozone. fileciteturn4file8

**Repeat testing rules** –

* Ab screen pos, confirmatory neg >2 weeks
* lesion PCR‑/DGM‑ with high suspicion > **2 weeks**;
* high‑risk exposure > repeat at **3 months**. fileciteturn4file12

**Serology pitfalls** –

* False‑negatives in early infection (<3 mo) or immunocompromise;
* false‑positives in autoimmune disease, older age, people who inject drugs. fileciteturn4file12

**‘Serofast’** – Low‑level persistent RPR after adequate therapy; no benefit from retreatment unless new evidence. fileciteturn4file18

**### 5  CSF / neurosyphilis pearls**

Lumbar puncture **only if neuro/ocular/otological symptoms** or **serological treatment failure**. fileciteturn4file19

**CSF criteria supporting neurosyphilis**: protein > 0.45 g/L; WCC > 5 cells/µL (HIV‑negative) or > 20 cells/µL (untreated HIV); RPR + or TPHA > 1:320. fileciteturn4file16

Refer early to ophthalmology / ENT / cardiology if relevant symptoms. fileciteturn4file15

**### 6  Antimicrobial therapy (memorise doses)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Scenario** | **First‑line** | **Key alternatives** | **Notes** |
| Incubating / epidemiological | BP 2.4 MU IM ×1 | Doxy 100 mg BD 14 d |  |
|  | | | |
| Early syphilis | BP 2.4 MU IM ×1 | Procaine Pen 600 000 U IM OD 10 d; Doxy 100 mg BD 14 d; Ceftriaxone 0.5–1 g IM/IV OD 10 d |  |
|  | | | |
| Late latent / cardiovascular / gummata | BP 2.4 MU IM weekly ×3 | Doxy 100 mg BD 28 d; Amox 2 g TDS + Probenecid QDS 28 d; Ceftriaxone 2 g OD 10–14 d |  |
|  | | | |
| **Neurosyphilis** | Procaine Pen 1.8–2.4 MU IM OD + Probenecid 500 mg QDS 14 d **or** nBenzylpenicillin 1.8–2.4 g IV 6‑hourly 14 d | Ceftriaxone 2 g OD 10–14 d; Doxy 200 mg BD 28 d | Restart if >24 h gap; never use benzathine here. |

**Penicillin allergy** – Take detailed history; most labelled allergies are not true. Perform skin testing; if positive, desensitise **in a setting with resus kit**. Patients with soya/peanut allergy: avoid benzathine, use procaine penicillin or ceftriaxone. fileciteturn4file4turn4file6

**### 7  Jarisch–Herxheimer & injection practicalities**

• Warn patients; observe 15 min after first injection; resus facilities on hand.

• Prednisolone 40–60 mg OD for 3 d starting 24 h pre‑therapy for neuro/cardiac/ocular disease.

• BP diluted with lidocaine improves tolerability; gaps ≤14 d between late‑syphilis BP doses acceptable. fileciteturn4file5

**### 8  Advice to patients**

• Abstain from sexual contact **until lesions healed or 2 weeks after completing treatment**. fileciteturn4file10

• Screen for other STIs, offer hepatitis B / HPV vaccines, discuss PrEP where appropriate.

**### 9  Follow‑up / test‑of‑cure**

• Minimum: RPR at 3, 6, 12 mo, then 6‑monthly until RPR negative or serofast. fileciteturn4file18

• ≥4‑fold RPR rise, symptoms or failure of expected fall → assess for re‑infection, treatment failure or neurosyphilis.

• Post‑neurosyphilis CSF re‑exam at 6 wk–6 mo if baseline abnormal. fileciteturn4file10

**### 10  Partner notification**

• Look‑back: 3 mo (primary) or 2 y (secondary/early latent); symptomatic partners receive epidemiological treatment or rescreen at 12 wk. fileciteturn4file6

**### 11  High‑yield exam pearls**

• TPPA withdrawn – labs use TPHA/TPLA or 2nd EIA for confirmation.

• Prozone phenomenon – always dilute serum if high suspicion.

• False‑positive treponemal tests common in autoimmune disease/IVDU; false‑negatives early or in immunocompromise. fileciteturn4file12

• CSF thresholds (protein > 0.45 g/L; WCC > 5 µL or > 20 µL if HIV) and TPHA > 1:320. fileciteturn4file16

• IM benzathine achieves treponemicidal serum for 2–4 wks (hence 14‑day gap rule). fileciteturn4file5

• Never use benzathine for neurosyphilis. fileciteturn4file16

These notes now include the repeat‑testing rules, serology caveats, numeric CSF criteria, expanded penicillin‑allergy guidance and patient abstinence advice requested.