# Syphilis in Pregnancy & Congenital Syphilis

**(BASHH 2024)**

### **1  Key epidemiology & pathophysiology**

• *T. pallidum* crosses the placenta at **any stage of pregnancy**; transmission risk peaks in early maternal infection and with RPR ≥ 1:8 (risk ratio 18) fileciteturn6file5.

• UK antenatal screening (∼700 000 per year) detects ≈ 400 cases needing treatment; congenital cases increasingly in UK‑born mothers fileciteturn6file5.

### **2  Screening & public‑health framework**

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| **When** | **What to do** | **Key points** |
| **Booking (first contact)** | Offer IDPS syphilis screen to **every pregnancy** | Explain purpose; take sample immediately fileciteturn6file17 |
| **Late presenters / in labour** | Urgent screen via UKAS lab | Liaise directly with lab for rapid analysis fileciteturn6file17 |
| **Decliners** | Formal re‑offer within IDPS timeframes |  |
| **Triggers for re‑test** | New partner, STI in patient/partner, sex work, IVDU, symptoms | Re‑test at risk or ≥3 mo after last negative fileciteturn6file17 |
| **Screen +/confirm– discordance** | Repeat sample 2 wk to exclude early infection |  |

### **3  Maternal assessment & staging**

• Positive treponemal screen = infected **unless** documented adequate prior treatment & serological cure fileciteturn6file9.

• Stage as *early* (<2 y) if clinical lesions or documented negative serology within 2 y; otherwise assume *late*.

• Rapid referral to named GUM clinician; late booking (>20 wk) cases prioritised fileciteturn6file9.

### **4  Treatment principles (mother)**

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| **Maternal stage** | **Regimen** | **Pregnancy‑specific adaptations** |
| **Early syphilis** | **BPG 2.4 MU IM ×1** | Add second 2.4 MU dose 7 days later if (i) treatment given in 3rd trimester or (ii) fetal US suggests infection/placentomegaly fileciteturn6file0turn6file8 |
| **Late latent / unknown duration** | BPG 2.4 MU IM weekly ×3 | Same as non‑pregnant |
| **Neurosyphilis** | Benzylpenicillin 1.8–2.4 g IV 6‑hourly 14 d  or Procaine Pen + Probenecid | Continuous CSF levels; restart if >24 h gap |
| **Penicillin allergy** | 1) Verify history; 84 % skin‑test negative 2) If confirmed: **ceftriaxone** acceptable, or penicillin **desensitisation** in centre with resus kit. | Avoid macrolides; soya/peanut allergy ➜ use procaine pen or ceftriaxone fileciteturn6file7 |

**Jarisch–Herxheimer in pregnancy**

• Occurs ≈40 %; may cause uterine contractions & transient FH changes; generally self‑limiting fileciteturn6file7.

• Management = supportive (antipyretics, fluids); **steroids NOT recommended** for prevention fileciteturn6file2.

### **5  Maternal follow‑up & birth planning**

• Serology: RPR at 3, 6, 12 mo; may be serofast or deliver before 4‑fold fall; repeat more often if reinfection risk fileciteturn6file1.

• Consider RPR at delivery to detect reinfection fileciteturn6file2.

• Create **Syphilis Birth Plan** with MDT (screening midwife, GUM, obstetrics, paediatrics, microbiology) and neonatal alert fileciteturn6file6.

• If treatment completed **<4 wk before delivery** or non‑beta‑lactam/ incomplete, classify infant *high risk* and pre‑plan neonatal therapy fileciteturn6file2.

### **6  Neonatal risk stratification & work‑up**

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| **Risk group** | **Maternal criteria** | **Neonatal actions** |
| **No risk** | Adequately treated *before* pregnancy, no reinfection | No tests fileciteturn6file6 |
| **Low risk** | Correct penicillin/ceftriaxone regimen >4 wk pre‑delivery, RPR falling, no relapse | Infant & maternal serology at birth; repeat RPR/IgM at 3 mo; discharge if RPR‑/IgM‑ fileciteturn6file6 |
| **High risk** | **Treatment <4 wk, non‑beta‑lactam,** incomplete/uncertain, or early untreated | Full exam, infant serology, **CSF (cells, protein, RPR)**, FBC, LFT, long‑bone X‑ray, direct PCR/dark‑ground if lesions fileciteturn6file6turn6file13 |

### 7  Neonatal treatment (congenital or high‑risk)

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| **Drug** | **Dose & duration** | **Notes** |
| **Benzylpenicillin** | 25 mg/kg IV q12 h (age ≤7 d); q8 h (7–28 d); q6 h (>28 d) for **10 d** | Max single dose 2.4 g; restart course if >24 h gap fileciteturn6file13 |
| **Ceftriaxone** | <1 yr 75 mg/kg IV OD; ≥1 yr 100 mg/kg IV OD 10–14 d | Ambulatory option when admission impossible fileciteturn6file13 |

### 8  Infant follow‑up & special scenarios

• Infants treated at birth: RPR at 3, 6, 12 mo; discharge when ≥4‑fold fall or negative fileciteturn6file13.

• Persisting/ rising RPR or positive IgM → investigate for neurosyphilis (repeat LP) and retreat fileciteturn6file13.

• Notify **ISOSS** of all positive antenatal screens & congenital cases fileciteturn6file13.

• Breastfeeding permitted unless active breast lesions present.

### 9  High‑yield exam flash points

• **Double‑dose BPG** needed if early syphilis treated in 3rd trimester or ultrasound signs.

• Jarisch–Herxheimer: supportive only; fetal monitoring advised; steroids not evidence‑based.

• Maternal treatment <4 wk pre‑delivery = automatic neonatal therapy.

• Ceftriaxone is the **preferred non‑penicillin** alternative in pregnancy; macrolides contraindicated.

• Penicillin skin testing safe in pregnancy; 84 % test negative.

• Infant ‘no risk’ group needs **no tests** – common viva trap.

### **10  Clinical features of congenital syphilis**

**Early congenital (birth – 2 y)** – signs usually emerge in the first 3 months, though many infants are asymptomatic at birth.

• Stillbirth, prematurity, low birth weight, neonatal death ([cdc.gov](https://www.cdc.gov/syphilis/about/about-congenital-syphilis.html))

• “Snuffles” (profuse mucopurulent nasal discharge), vesiculobullous or copper‑coloured macular rash on palms/soles, desquamating perioral/genital lesions ([msdmanuals.com](https://www.msdmanuals.com/professional/pediatrics/infections-in-neonates/congenital-syphilis))

• Hepatosplenomegaly, jaundice, generalized lymphadenopathy, severe anaemia and thrombocytopenia ([msdmanuals.com](https://www.msdmanuals.com/professional/pediatrics/infections-in-neonates/congenital-syphilis))

• Skeletal disease: osteochondritis and periostitis causing metaphyseal lucencies, Wimberger sign and **pseudoparalysis of Parrot** ([msdmanuals.com](https://www.msdmanuals.com/professional/pediatrics/infections-in-neonates/congenital-syphilis))

• CNS involvement – meningitis, hydrocephalus, seizures; eye involvement (chorioretinitis) ([msdmanuals.com](https://www.msdmanuals.com/professional/pediatrics/infections-in-neonates/congenital-syphilis))

**Late congenital (> 2 y)** – due to chronic inflammation/scarring.

• **Hutchinson triad**: interstitial keratitis, sensorineural deafness, Hutchinson (notched) incisors ([msdmanuals.com](https://www.msdmanuals.com/professional/pediatrics/infections-in-neonates/congenital-syphilis))

• Mulberry molars, high‑arched palate, “bulldog” facies / maxillary hypoplasia ([msdmanuals.com](https://www.msdmanuals.com/professional/pediatrics/infections-in-neonates/congenital-syphilis))

• Saddle‑nose deformity, frontal bossing; periosteal thickening giving **saber shins** ([msdmanuals.com](https://www.msdmanuals.com/professional/pediatrics/infections-in-neonates/congenital-syphilis))

• **Clutton joints** – painless symmetrical knee effusions (classically knees, age 6–16 y) ([britannica.com](https://www.britannica.com/science/Clutton-joint))

• Gummatous skin/bone lesions, palatal destruction, juvenile paresis, tabes dorsalis, optic atrophy ([msdmanuals.com](https://www.msdmanuals.com/professional/pediatrics/infections-in-neonates/congenital-syphilis))

These features are classic viva territory – remembering snuffles, pseudoparalysis, Hutchinson triad and Clutton joints often secures bonus marks.