INFECTIOUS DISEASE & PREVENTIVE MEDICINE REFERENCE

# Syphilis: Prevention & Risk Reduction Breakdown

*Barrier Protection, Biomedical Prophylaxis (Doxy-PEP), Routine & Prenatal Screening, and Partner Treatment*

**Syphilis** is a systemic sexually transmitted bacterial infection caused by the spirochete *Treponema pallidum*. It spreads through direct skin-to-skin or mucosal contact with infectious primary sores (chancres) or secondary mucocutaneous lesions during vaginal, anal, or oral sex, as well as vertically during pregnancy. Because painless chancres frequently go unnoticed inside the vagina, rectum, or mouth—and latent syphilis produces no symptoms at all—preventing syphilis requires combining physical barriers, biomedical prophylaxis, routine blood testing, and simultaneous partner treatment.

> **Key Prevention Reality:** Unlike many viral STIs, there is currently no licensed syphilis vaccine, and prior cured infection does *not* confer lifelong immunity—reinfection can occur upon re-exposure. Layered behavioral, biomedical, and screening strategies remain essential for sustained protection.

## 1. Primary Prevention: Barrier & Behavioral Protection

Blocking direct physical contact with infectious lesions and secretions interrupts transmission during intimate activity.

| Preventive Layer | Transmission Context | Actionable Implementation |
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| **External & Internal Condoms** | Protects covered penile, vaginal, and rectal mucosa from direct contact with internal chancres and infectious secretions. | Use latex or polyurethane condoms consistently from start to finish of every vaginal and anal sex act. Note that sores on uncovered groin or scrotal skin can still transmit bacteria. |
| **Oral Sex Barriers** | Oral chancres and mucous patches are highly contagious and frequently painless or mistaken for minor canker sores. | Use unlubricated condoms for fellatio and dental dams (or cut-open condoms) for cunnilingus or anilingus with new or non-monogamous partners. |
| **Visual Lesion Awareness & Abstinence** | Primary chancres and secondary rashes (including moist condylomata lata) carry extremely high spirochete loads. | Avoid intimate skin-to-skin contact if either partner notices any unexplained genital, anal, or oral sore, painless ulcer, or unusual rash until evaluated and treated by a clinician. |
| **Mutual Monogamy & Pre-Intimacy Testing** | Multiple or concurrent partners elevate exposure probability, especially in regions with rising syphilis incidence. | Maintain mutual monogamy with a partner who has recently tested negative via syphilis blood serology, and establish open STI testing agreements before condomless sex. |

## 2. Biomedical Prevention: Doxycycline Post-Exposure Prophylaxis (Doxy-PEP)

Biomedical antibiotic prophylaxis offers a powerful, evidence-based layer of protection for populations at elevated risk of bacterial STIs.

- **How Doxy-PEP Works:** Taking a single oral dose of **doxycycline 200 mg** within 24 hours (and no later than 72 hours) after condomless oral, anal, or vaginal sex reduces incident syphilis infections by roughly **70% to 87%** in clinical trials.
- **Recommended Clinical Eligibility:** Public health guidelines recommend discussing and offering Doxy-PEP to gay, bisexual, and other men who have sex with men (MSM) and transgender women who have had a bacterial STI (syphilis, chlamydia, or gonorrhea) in the past 12 months, as well as via shared clinical decision-making for others at ongoing high exposure risk.
- **Safe Administration Practices:** Take doxycycline with a full glass of water while upright (to prevent pill esophagitis), avoid exceeding 200 mg per 24-hour period, use sun protection (due to photosensitivity), and pair Doxy-PEP with regular quarterly STI and HIV screening.

## 3. Secondary Prevention: Screening, Partner Care & Prenatal Protection

Detecting silent latent infection and treating sexual networks simultaneously halts community spread and prevents severe neurological or congenital complications.

- **Routine Blood Serology Screening:** Because syphilis is diagnosed via blood tests (treponemal and non-treponemal RPR/VDRL panels) rather than urine swabs, explicitly request syphilis blood testing during routine STI checkups—every 3 to 6 months for sexually active MSM, individuals on HIV PrEP, and people living with HIV, and at least annually for sexually active adults in high-prevalence areas.
- **Eliminating Congenital Syphilis via Prenatal Testing:** Every pregnant individual should be screened for syphilis at the **first prenatal visit**, with repeat blood testing at **28 weeks of gestation and again at delivery** in areas or situations of ongoing risk. Prompt penicillin treatment during pregnancy prevents miscarriage, stillbirth, and congenital syphilis in the newborn.
- **Simultaneous Partner Treatment & Abstinence Window:** All sexual partners exposed within 90 days of a primary diagnosis (or 6–12 months for secondary/early latent stages) should receive presumptive antibiotic therapy even before their blood tests return. Both partners must abstain from sexual contact until treatment is complete, all sores are healed, and at least 7 days have passed.