

Syphilis is a **sexually transmitted infection (STI)** caused by the bacteria *Treponema pallidum* that can cause severe symptoms and health problems.

	FEMALE	ALL	MALE
Prevalence Risk Factors		<ul style="list-style-type: none"><li>Multiple sexual partners</li><li>Previous STI(s)</li><li>HIV+</li><li>Illicit drug use</li><li>Unprotected anal intercourse</li></ul>	<ul style="list-style-type: none"><li>Men who have sex with men</li></ul>
Prevalence	<ul style="list-style-type: none"><li>Rate of 2.3 infected per 100,000 people</li></ul>		<ul style="list-style-type: none"><li>Rate of 16.9 infected per 100,000 people</li></ul>
Presentation	<ul style="list-style-type: none"><li>Pregnancy:<ul style="list-style-type: none"><li><b>Increased risk of:</b> miscarriage, stillbirth, neonatal death, fetal growth restriction</li><li><b>Congenital syphilis:</b> May be transmitted vertically to fetus<ul style="list-style-type: none"><li>Early (birth-4 years): palmar and solar rash, bulging forehead, rhinitis, facial/cranial nerve deficits, seizures, long bone lesions</li><li>Late: dental abnormalities, nasal cartilage destruction, lower leg bowing, morbilliform rash, sterile joint effusion, prominent forehead, deafness, keratitis</li></ul></li></ul></li></ul>	“Great imitator”: wide range of symptoms common to other diseases <ul style="list-style-type: none"><li>Primary syphilis: painless ulcer, enlarged lymph nodes</li><li>Secondary syphilis: flu-like symptoms, hepatitis, nephritis, ocular and optic impairments, palmar and solar non-itchy rashes, and condyloma lata</li><li>Tertiary syphilis: cardiovascular involvement. Nodulo-ulcerative lesions (or gummas) can destroy organs, sometimes leading to death</li><li>Neurosyphilis<ul style="list-style-type: none"><li>Early: cranial nerve dysfunction, meningitis, seizures, strokes</li><li>Late: general paralysis, mental status alteration, cognitive and emotional impairments, sensory and movement dysfunction (tabes dorsalis)</li></ul></li></ul>	<ul style="list-style-type: none"><li><b>More common</b> to have a co-infection with HIV:<ul style="list-style-type: none"><li>More severe symptoms</li><li>Increased risk of neurosyphilis</li></ul></li></ul>
Pathophysiology	<ul style="list-style-type: none"><li>Additional transmission mode: <b>placenta</b><ul style="list-style-type: none"><li>Rarely: <b>artificial insemination</b></li></ul></li></ul>	<ul style="list-style-type: none"><li>Transmission modes: blood, skin-to-skin contact, and sexual contact<ul style="list-style-type: none"><li>Rare transmission modes: unscreened organ/bone transplants</li></ul></li><li>Contagion occurs early, bacteria may stay dormant 3-90 days (the average is 21 days)<ul style="list-style-type: none"><li>Primary and secondary syphilis rashes are highly contagious</li></ul></li><li>Primary syphilis appears up to 3 months post-infection;<ul style="list-style-type: none"><li>If untreated: Secondary syphilis develops within 2-12 weeks, or to an asymptomatic, infectious, latent phase<ul style="list-style-type: none"><li>If untreated: Tertiary syphilis develops months to years after initial infection</li></ul></li></ul></li><li>Neurosyphilis can occur at any stage</li></ul>	
Diagnostics/Screening	<ul style="list-style-type: none"><li>Pregnancy: CDC - screen at first prenatal visit and in third trimester<ul style="list-style-type: none"><li>High risk mothers: screen at delivery (engaged in risk factor(s) listed above)</li></ul></li><li><b>7.4%</b> of females are screened in the emergency department</li><li>Females <b>less likely</b> to be diagnosed due to vaginal/cervical location of lesions</li></ul>	<ul style="list-style-type: none"><li>Screen every 3-6 months<ul style="list-style-type: none"><li>Those engaged with risk factor(s) (listed above)</li><li>HIV positive patients</li></ul></li></ul>	<ul style="list-style-type: none"><li>Men who have sex with men: Annual screening</li><li><b>48.9%</b> of males are screened in the emergency department</li><li>Males diagnosed <b>more frequently and faster</b> due to visibility of penile lesions</li></ul>
Treatment	<ul style="list-style-type: none"><li>Pregnancy: Penicillin is the only option</li></ul>	<ul style="list-style-type: none"><li>Penicillin: Preferred for all stages<ul style="list-style-type: none"><li>If allergic, CDC recommends desensitization followed by penicillin</li></ul></li></ul>	<ul style="list-style-type: none"><li><b>More likely to be treated</b> due to higher screening and diagnosis rates</li><li>Men who have sex with men: doxycycline can prevent infection</li></ul>
Survival	<ul style="list-style-type: none"><li>2,349 female deaths attributed to syphilis (1968-2015)</li></ul>	<ul style="list-style-type: none"><li>Lower death rates in adults due to improved screening and treatment</li></ul>	<ul style="list-style-type: none"><li>4,149 male deaths attributed to syphilis (1968-2015)</li></ul>