

## **Signs and Symptoms**

Manifestations of syphilis vary according to the stage of the disease and the immune status of the infected person. Each of the four stages marks a change in the course of infection. If left untreated, or if treated in the late latent or tertiary stage of disease, syphilis causes irreversible neurological and cardiovascular damage.

## **Stages**

**Primary syphilis** -The first sign of syphilis usually appears 2 to 10 weeks following exposure. A red, oval sore, called a chancre (pronounced shanker) develops at the site where the bacteria entered the body. The lesion typically looks clean, is not pus-filled, and is often painless. It may develop into an ulcer that secretes clear mucus when disturbed. Most chancres appear on the penis, anus, and rectum in men, and on the vulva, cervix, and between the vagina and anus (perineum) in women. Less commonly, they form on the lips, hands, or eyes. Sores in the vagina and rectum may go undetected unless seen by a physician. Swelling and hardening of lymph nodes in the inner thighs and groin is also common and may cause tenderness. Lesions usually heal without treatment within 6 weeks.

**Secondary syphilis** -In this stage, the pathogen spreads through the blood to the skin, liver, joints, lymph nodes, muscles, and brain. A rash frequently appears about 6 weeks to 3 months after the chancre has healed. The rash may cover any part of the body, but tends to erupt on the palms or soles of the feet. It does not itch. Multiple painless lesions may also form in mucous membranes of the mouth and throat and on the bones and internal organs. At this time, the disease is highly infectious, because bacteria are present in the secretions from the lesions. The rash usually heals without treatment within 2 to 6 weeks. Other symptoms may include fever, sore throat, fatigue, headache, neck ache, joint pain, malaise, and patches of hair loss. A significant number of patients do not develop symptoms at this stage of the disease.

**Latent syphilis** - This asymptomatic stage occurs in two phases: early (within 1 year of infection) and late (after 1 year), and follows secondary syphilis. Late latent syphilis is noninfectious. The bacteria remain inactive in the lymph nodes and the spleen. Latency can last 30 years and may or may not progress to the final, or tertiary, syphilis. About 30% of infected people persist in a latent state.

**Tertiary syphilis** -The final stage, also called "late" syphilis, begins 3 or more years after infection. About 30% of infected people progress to this stage. At this stage, the person may no longer be contagious, but the bacteria reactivate, multiply, and spread throughout the body, damaging the heart, eyes, brain, nervous system, bones, and joints. Tumors may

develop on skin, bone, testes, and other tissues; cardiovascular symptoms such as aortic aneurysm and aortic valve insufficiency may develop; degenerative central nervous system disease can produce dementia, tremors, loss of muscle coordination(ataxia), paralysis, and blindness. Damage is irreversible.