

## Increasing Early Syphilis Cases in Illinois – Syphilis Staging and Treatment

Syphilis is a sexually transmitted disease (STD) caused by the *Treponema pallidum* bacterium.



Syphilis can be separated into four different stages: primary, secondary, early latent, and late latent. Ocular and neurologic involvement may occur during any stage of syphilis.

During the incubation period (time from exposure to clinical onset) there are no signs or symptoms of syphilis, and the individual is **not infectious**.

- Incubation can last from 10 to 90 days with an average incubation period of 21 days.
- During this period, the serologic testing for syphilis will be non-reactive but known contacts to early syphilis (that have been exposed within the past 90 days) should be preventatively treated.

### Syphilis Stages

#### Primary 710 (CDC Diagnosis Code)

- **Patient is most infectious**
- Chancre (sore) must be present.
- It is usually marked by the appearance of a single sore, but multiple sores are common.
- Chancre appears at the spot where syphilis entered the body and is usually firm, round, small, and painless.
- The chancre lasts three to six weeks and will heal without treatment.
- Without medical attention the infection progresses to the secondary stage.

#### Secondary 720

- **Patient is infectious**
- This stage typically begins with a skin rash and mucous membrane lesions.
- The rash may manifest as rough, red, or reddish brown spots on the palms of the hands, soles of the feet, and/or torso and extremities. *The rash does usually does not cause itching.*
- Rashes associated with secondary syphilis can appear as the chancre is healing or several weeks after the chancre has healed.
- Other possible symptoms of secondary syphilis may include fever, swollen lymph glands, sore throat, patchy hair loss, muscle aches, fatigue, and flu-like symptoms.

#### Early Latent 730

- **Patient is infectious**
- No symptoms (latent) were identified at time of medical visit
- The Infection has been identified to have occurred within the past 12 months
- This stage may occur between primary and secondary stages; and after the secondary stage.

## Late Latent 745

- **Patient is NOT infectious**
- No symptoms (latent) were identified at time of medical visit
- The Infection has been identified to have occurred at least after 12 months (i.e., no evidence of any of the above stages in the past year)

## Neurological and Ocular Involvement

**Neurologic involvement may occur at any stage of syphilis.** Once the syphilis infection has invaded the nervous system, there may be a wide range of symptoms. These include headaches, altered behavior, having difficulty coordinating muscle movements, paralysis, sensory deficits, and dementia.

**Ocular involvement may occur at any stage of syphilis, but eye involvement tends to occur most frequently in secondary and late syphilis stages.** Ocular syphilis may occur whether the patient is HIV positive or HIV negative. Below is a list of symptoms and manifestations of ocular syphilis, however, not all have to be present to be ocular syphilis.

### Symptoms

- Redness and eye pain
- Floaters
- Flashing lights
- Visual acuity loss
- Blindness
- Blue tinge to vision

### Manifestations

- Conjunctivitis, scleritis, and episcleritis
- Uveitis
- Elevated intraocular pressure
- Chorioretinitis, retinitis, and vasculitis

## Treatment

**Syphilis is the only STD where treatment is dependent upon the stage of the infection** (see chart below for CDC recommended treatment regimen). **Currently there is also a national shortage of Benzathine penicillin G (bicillin).** This makes it critical to stage syphilis accurately and treat accordingly. Any non-pregnant patients should be considered for the alternative treatment with doxycycline.

The CDC 2015 STD treatment guidelines indicate patients, **regardless of HIV status**, should be treated according to the stage of syphilis they are diagnosed with. HIV positive patients diagnosed with early syphilis (i.e., primary, secondary, or early latent stages) should therefore be treated with only a total of 2.4 million units of bicillin, i.e., one dose. In patients living with HIV infection, providing additional doses to treat early syphilis does not enhance treatment efficacy.

**Syphilis during pregnancy** must be treated with the penicillin regimen appropriate to their stage of syphilis. **If a pregnant woman is allergic to penicillin, she must be desensitized and treated with penicillin according to the stage at time of diagnosis. There is no alternative treatment for pregnant females.** Benzathine penicillin G is the only known effective antimicrobial for prevention of maternal transmission of syphilis to the fetus.

**Syphilis cases with neurologic and ocular involvement** should be treated with Aqueous Crystalline Penicillin G 18-24 million units per day administered as 3-4 million units IV every four hours or continuous infusion for 10-14 days. Clients diagnosed with syphilis with neurologic and or ocular involvement may consider consultation with an Infectious Disease specialist especially in complex scenarios.

## Syphilis Staging and Treatment Chart

	Symptoms	Description	Treatment	Notes
Primary	Chancre	Single or multiple firm, round and painless lesions occur at site of infection	Benzathine penicillin G 2.4 million units IM in a single dose  <b>OR</b>  *Doxycycline 100 mg orally BID x 14 days	Partner management – If exposed within the last 90 days of diagnosed case, partner should be tested AND treated per CDC guidelines. If exposure is greater than 90 days testing is sufficient.
Secondary	Rash or Mucus Membrane Lesions	Generalized body rash, palmar/plantar rash, mucus patches (highly infectious), alopecia, condylomata lata (highly infectious)	Benzathine penicillin G 2.4 million units IM in a single dose  <b>OR</b>  *Doxycycline 100 mg orally BID x 14 days	Partner management – If exposed within the last 90 days of diagnosed case, partner should be tested AND treated per CDC guidelines. If exposure is greater than 90 days testing is sufficient.
Early Latent	No Symptoms	Identified by one or more of the following facts: <ul style="list-style-type: none"> <li>RPR negative within the preceding 12 months</li> <li>symptoms of primary or secondary syphilis in the preceding 12 months</li> <li>named as partner to primary or secondary syphilis with no current symptoms</li> <li>a sex partner of patient who had symptoms of primary or secondary syphilis in the preceding 12 months</li> <li>an increase of two dilutions in the RPR titer, with no current symptoms, indicating re-infection</li> </ul>	Benzathine penicillin G 2.4 million units IM in a single dose  <b>OR</b>  *Doxycycline 100 mg orally BID x 14 days	Identified by one or more of the following facts: RPR negative within the preceding 12 months, symptoms of primary or secondary syphilis in the preceding 12 months, named partner to primary or secondary syphilis with no current symptoms, a sex partner who had symptoms of primary or secondary syphilis in the preceding 12 months, or an increase of two dilutions in the RPR titer which indicates re-infection (and no current symptoms).
Late Latent	No Symptoms	Infection occurred greater than 12 months or exact date of exposure unknown	Benzathine penicillin G 7.2 million units total, administered as three doses of 2.4 million units IM each at 1-week intervals  <b>OR</b>  *Doxycycline 100 mg orally BID x 28 days	Infection occurred greater than 12 months or exact date of exposure unknown. Partners within the previous 12 months should be referred for testing. <b>Additionally, it is crucial that all partners of pregnant females are offered partner services, testing, and treatment.</b>

*\*Doxycycline is contraindicated and does not apply to pregnant women.*

We appreciate your commitment to maintaining and promoting the health of all Illinoisans. For any questions or assistance please contact the Illinois STD Section at 217-782-2747.

### Additional Resources:

CDC 2015 STD Treatment Guidelines: <https://www.cdc.gov/std/tg2015/default.htm>

CDC Syphilis page <https://www.cdc.gov/std/syphilis/>

CDC Syphilis Physician's Pocket Guide <https://www.cdc.gov/stopsyphilis/toolkit/HealthCareProviders/DocPocket.pdf>

CDC Clinical Advisory: Ocular syphilis in the U.S. <https://www.cdc.gov/std/syphilis/clinicaladvisoryos2015.htm>

CDC Call to Action: Let's Work Together to Stem the Tide of Rising Syphilis in the United States.

<https://www.cdc.gov/std/syphilis/syphiliscalltoactionapril2017.pdf>