

Administering Penicillin G Benzathine (Bicillin L-A®) Injections for the Treatment of Syphilis



Long-acting penicillin G benzathine (Bicillin L-A®) is the preferred antibiotic treatment for patients in all stages of syphilis.

Primary, Secondary, and Early Latent Syphilis: A single dose of penicillin G benzathine 2.4 million units (mU), which can be administered in a single 2.4 mU syringe or two syringes containing 1.2 mU each, for for the recommended treatment of 2.4 mU total dose.

Primary, Secondary and Early Latent Syphilis: A total dose of 7.2 mU of penicillin G benzathine divided into three doses (2.4 mu each at 1-week intervals), is the recommended treatment.

- Weekly intervals (not pregnant): 10-14 days between doses or the series of three injections must be restarted
- Pregnant client intervals: 7 days between doses is optimal, but any delay more than 9 days and the series of injections should be restarted.

Administration of Penicillin G Benzathine

Preparing the Patient: Patients may be anxious because of a previous experience or what they have heard about painful syphilis injections. A tense client can make for a painful injection. Consider offering tips for the client to relax, such as deep breathing, muscle relaxation, or distraction.

Preparing the Injection: Warm the medication to room temperature by rolling the syringe back and forth between the palms of the hands.

Position the Client: Penicillin G benzathine should be administered deep intramuscularly in the upper, outer quadrant of the gluteal/buttock area. The injection is best administered in the prone position. Encourage the patient to point their toes inward to relax the muscle area at the site of injection.

Locate the Injection Site: If the patient is receiving two injections (1.2 mU each), one will be given in each buttock. If the client is receiving one injection containing 2.4 mU, ask the patient which side they prefer. As you clean the area, push down on the muscle to assess the location and reduce muscle tension.

Administer the Injection: Stretch the skin at the injection site for easier needle insertion. Advise the patient to take a deep breath. As they exhale, insert the needle into the muscle at a 90-degree angle to the skin. Draw the plunger back/aspirate to make sure you have not hit a blood vessel. Give the injection for 20-30 seconds at a slow and steady rate. A slower delivery allows time for the muscle to accommodate the medication, and it lessens the possibility of triggering deep muscle pain receptors.

Observe for Side Effects: Ask the patient to remain in the clinic for 15-20 minutes to ensure no side effects or allergic reaction. If the patient has a history of allergic reactions to medications, extend the observation time to 30 minutes.

Other Considerations

- The selection of the appropriate penicillin preparation is essential because *T. pallidum* can reside in sequestered sites (e.g., the CNS and aqueous humor) that are poorly accessed by certain forms of penicillin. **The only penicillin that is appropriate for treatment of primary, secondary, early latent, late latent, and latent of unknown duration is penicillin G benzathine.**
- Penicillin G benzathine should not be administered intravenously or mixed with other intravenous solutions.
- Do not inject into or near an artery.
- Do not freeze penicillin G benzathine. Store it in a refrigerator at 36° to 46° F.
- Allergies to penicillin G benzathine: If the patient is not pregnant, treatment options include Doxycycline 100 mg twice a day for 14 days (primary, secondary, and early latent stage) or for 28 days for late latent or latent of unknown duration stage. If the patient is pregnant, they must be referred immediately for desensitization as penicillin G benzathine is the only antimicrobial that treats fetal infection and congenital syphilis.

Jarisch Herxheimer Reaction

A Jarisch Herxheimer Reaction is caused from toxins released from the dying *T. pallidum* bacteria. It can occur approximately 3-6 hours after administering treatment and resolves within 24 hours. Symptoms may include flu-like symptoms, including headache, joint and muscle pain, body aches, sore throat, general malaise, sweating, chills, nausea, or other symptoms.

For additional information, visit the [CDC's Sexually Transmitted Infection Treatment Guidelines, 2021](#), or the [manufacturer's details](#).