

One Penicillin Dose Cures Early Syphilis in People With HIV

A single dose of benzathine penicillin G worked as well as three doses for both HIV-positive and HIV-negative people.

October 21, 2023 By [Liz Highlyman](#)

A single injection of benzathine penicillin G was found to be noninferior to three weekly doses for treatment of the early stages of [syphilis](#), and the shorter regimen was equally effective for people living with HIV, according to study results presented at [IDWeek 2023](#).

Syphilis rates have been rising for a decade in the United States, and gay and bisexual men account for nearly half of primary and secondary syphilis cases, [according to the Centers for Disease Control and Prevention](#) (CDC). Congenital syphilis, which occurs when a mother passes the bacteria to her baby, [has increased dramatically](#) in recent years. If left untreated, the sexually transmitted infection can cause severe complications, including heart damage and neurological problems. What's more, HIV-positive people with syphilis lesions are more likely to transmit HIV, and HIV-negative people with syphilis are more likely to acquire the virus.

Benzathine penicillin G (BPG) is the drug of choice for syphilis treatment, and it is the only drug recommended for pregnant women. The CDC recommends [a single dose](#) for primary, secondary or early latent syphilis and [three doses](#) spaced a week apart for late latent syphilis. But some experts worry that a single dose might not be adequate for immunocompromised people, including those living with HIV. Benzathine penicillin G [is currently in short supply](#). Using fewer doses would stretch the existing supply and make treatment more convenient and less costly.

Jodie Dionne, MD, MSPH, of the University of Alabama at Birmingham, and colleagues conducted a randomized clinical trial comparing one versus three doses of BPG for people with early-stage syphilis.

The study included 249 participants, about 60% of whom were living with HIV. Almost all were men, 62% were Black, 25% were white and the average age was 35 years. A majority were asymptomatic and identified via routine screening; 19% had primary syphilis, 47% had secondary syphilis and 33% had early latent syphilis.

Overall, 76% of people who received a single dose of BPG had a serologic response, meaning at least a fourfold decline in syphilis antibodies at six months. This did not differ significantly from the

70% response rate seen in the group that received three doses spaced a week apart. Treatment was equally effective for people with HIV, with response rates of 76% for one dose and 71% for three doses. Treatment was generally well tolerated, although most people experienced mild to moderate pain or tenderness at the injection site.

“Treatment of persons with early syphilis with more than a single dose of 2.4 million units of BPG offers no therapeutic benefit irrespective of HIV infection status and was associated with increased rates of injection site discomfort,” the researchers concluded.

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