



Practice sting 2025-14

Practice sting Benzylpenicillin Confusion with Serious Consequences

This Practice Alert is particularly relevant for prescribers, pharmacists, and healthcare professionals administering medication.

Be extra vigilant when selecting benzylpenicillin products.

Incident

A pregnant woman tested positive for syphilis serology early in pregnancy. In consultation with a microbiologist, her gynecologist prescribed three injections of 2.4 million IU benzylpenicillin at weekly intervals. These were administered. Unfortunately, the baby was stillborn at 35 weeks due to congenital syphilis infection. The mother also tested positive again. Investigation revealed that short-acting benzylpenicillin had been prescribed and dispensed instead of long-acting benzathine benzylpenicillin. Follow-up inquiries at regional community pharmacies suggested this mix-up may have occurred more frequently.

Recommendations

For Prescribers, Pharmacists, and Administrators

- Be alert to product confusion.
- As a rule of thumb:
 - Benzathine benzylpenicillin is always administered intramuscularly as a single dose or at weekly intervals (1.2 or 2.4 million IU for adults).
 - Sodium benzylpenicillin requires a minimum of 4 million IU per day for adults.

For Prescribers

- Always state the indication on the prescription so the pharmacist can perform an adequate check.

Analysis

Pregnant women with syphilis can transmit the infection to the fetus, leading to complications including intrauterine death. Therefore, all pregnant women are screened. If infected, the recommended treatment is three injections of benzathine benzylpenicillin at weekly intervals, according to the [LCI guideline Syphilis](#) (2024).

In this case, sodium benzylpenicillin was dispensed and administered instead of benzathine benzylpenicillin. Sodium benzylpenicillin is absorbed much faster after intramuscular injection, resulting in a shorter duration of action. Weekly administration of sodium benzylpenicillin leads to insufficient exposure and possible treatment failure.

Benzathine benzylpenicillin can be used for syphilis, erysipelas, recurrent cellulitis (off-label), and prophylaxis. It is used as a single injection or weekly injections. For syphilis in pregnancy the recommended dose is 2.4 million IU once weekly for three weeks. Sodium benzylpenicillin can be used for neurosyphilis and ocular syphilis and is administered in multiple daily doses. The recommended dose is 18 million IU IV per day, as continuous infusion or in six divided doses ([National Antibiotic Guidance, 2025](#)).

VMI has received multiple reports regarding benzylpenicillin. Incidents can occur at multiple stages: prescribing, dispensing, and administration. In prescribing and pharmacy systems, and some guidelines, sodium benzylpenicillin is listed under “benzylpenicillin,” increasing the risk of mix-up with benzathine benzylpenicillin.