

Antibiotic Resistant Gonorrhea: Clinical Guidance for Suspected Treatment Failure

Gonorrhea is a common sexually transmitted infection (STI) caused by *Neisseria gonorrhoeae* bacteria. This bacteria has rapidly acquired resistance to each class of antibiotics used for treatment, and the Centers for Disease Control and Prevention (CDC) has declared [drug-resistant gonorrhea](#) an urgent public health threat.

Reported cases of cephalosporin resistance have recently occurred in Europe, Asia, Australia, and Canada, and cases with reduced susceptibility have now been reported in the United States (in Nevada and Massachusetts).

Monotherapy with ceftriaxone (500 mg IM for persons weighing <150 kg) is now the only [treatment regimen](#) for gonorrhea recommended by the CDC.



Identifying Suspected Treatment Failure

Clinicians should be alert for potential treatment failures. Gonococcal treatment failure may be suspected in the following two situations:



Patients with **persistent symptoms** more than 3 days after recommended treatment, **with:**

- ✓ No sexual contact since treatment (reinfection unlikely), **and**
- ✓ Other untreated infections have been excluded (*ex: chlamydia, mycoplasma genitalium, trichomoniasis*).

Patients with a **positive test-of-cure** (TOC), **with:**



- ✓ No sexual contact since treatment (reinfection unlikely), **and**
- ✓ Positive culture at least 72 hours after appropriate treatment, **or**
- ✓ Positive NAAT obtained more than 7 days after treatment for anogenital gonorrhea, **or**
- ✓ Positive NAAT more than 14 days after treatment for pharyngeal gonorrhea.

Important Note: Most suspected treatment failures are likely due to reinfection rather than true treatment failures. It is crucial that clinicians **conduct a thorough sexual history** to evaluate for potential reinfection. Patients suspected of having a reinfection should be re-treated with the recommended antibiotic regimen.

Both [CDC](#) and [NCSD](#) have clinician guides on taking a comprehensive sexual health history.



Testing Suspected for Treatment Failure



For Private Clinicians:
If your practice does not have the capacity to conduct gonococcal culture for AST, reach out to your [local health department](#) to connect your patient for testing.

If reinfection has been ruled out, clinicians should repeat NAAT testing at all exposed anatomic sites, along with collection of specimens for gonococcal culture and **antimicrobial susceptibility testing** (AST). Note that NAATs alone cannot provide antimicrobial susceptibility results.

Treating clinicians can consult the [STD Clinical Consultation Network](#) or [CDC](#) for advice on obtaining cultures, antimicrobial susceptibility testing, and treatment regimens.

Clinical Management for Treatment Failures

The following steps should be taken to ensure adequate testing, treatment, partner management, and follow-up of suspected gonorrhea treatment failure when reinfection is unlikely.

Culture:	Obtain specimens for culture and NAAT prior to re-treatment. Positive cultures should undergo antimicrobial susceptibility testing (AST). If culture is not available on-site, coordinate with your local health department.
Repeat Treatment:	Treat suspected gonorrhea treatment failures with either: <ol style="list-style-type: none">1. Ceftriaxone 500 mg IM in a single dose for persons weighing <150 kg (1 g for persons weighing ≥ 150 kg), or2. If cephalosporin allergy: Gentamicin 240 mg IM plus azithromycin 2 g orally. Note: Gentamicin has poor efficacy for pharyngeal infection. For suspected treatment failures of pharyngeal infections, ceftriaxone should be used whenever possible.
Report & Consult:	Report the case to your local health department within 24 hours. You may also reach out to the STD Prevention and Surveillance program for consultation or reporting assistance.
Test/Treat Partners:	Work with your assigned Disease Intervention Specialist (DIS). All sexual partners in the last 60 days should be tested at all sites of exposure and empirically treated with the same treatment as the index patient.
Test-of-Cure (TOC):	Counsel the patient to refrain from sex. TOC should be performed with both culture and NAAT after: <ul style="list-style-type: none">▪ 7 days for urogenital/rectal infection, or▪ 14 days for pharyngeal infection. All positive cultures should have AST performed, and be held for further testing if needed.

Source: [Workowski et al. Sexually Transmitted Treatment Guidelines, 2021. MMWR Recomm Rep 2021;70\(4\):71-80.](#)

Reporting Presumptive Treatment Failures

Presumptive treatment failures should be **reported to VDH** as soon as possible after receiving a positive result for a repeat NAAT, or upon receipt of a positive culture test (assuming reinfection is unlikely).

- **Private clinicians:** report to your [local health department](#).
- **Health department clinicians:** report to the STD Prevention and Surveillance (SPS) program. SPS staff will work with you to complete the CDC's [Suspected Gonorrhea Treatment Failure Consultation Form](#).

If antibiotic resistance or decreased susceptibility to ceftriaxone is confirmed, SPS staff will coordinate case assignment to a [Disease Intervention Specialist](#) (DIS) for field follow up to conduct partner services.

Laboratory Resources for Antimicrobial Susceptibility Testing (AST)*

LabCorp: offers gonorrhea culture (Test Code 008128) with the possibility of adding antimicrobial susceptibility testing (Test Code 183130) as soon as the positive culture result is obtained. The add-on of the test 183130 needs to be requested verbally by phone to LabCorp customer service.

Quest Diagnostics: offers gonorrhea culture with reflex to antimicrobial susceptibility testing (Test Code 38404; CPT Code 87081). If gonorrhea is isolated, then antimicrobial susceptibility testing will be performed (CPT code(s): 87185, 87181(x4)). Contact Quest directly for more information on gonorrhea testing.

Maryland Public Health Laboratory (through CDC's ARLab Network) offers antimicrobial susceptibility testing for suspected gonorrhea treatment failures. Visit [submission guidelines](#) or contact mdphl.arln@maryland.gov for more information.

For VDH Clinicians:

Instructions for ordering gonococcal culture and AST testing from LabCorp are available in the VDH [Laboratory Manual for Clinical Settings](#) (pg. 11).

* Company and laboratory names are provided for informational purposes only. VDH does not endorse any company or its products.