DISSEMINATED GONOCOCCAL INFECTION (DGI) GUIDANCE FOR LOCAL HEALTH DEPARTMENTS

CALIFORNIA DEPARTMENT OF PUBLIC HEALTH
DIVISION OF COMMUNICABLE DISEASES CONTROL
SEXUALLLY TRANSMITTED DISEASES CONTROL BRANCH

Purpose

In recent months, the California Department of Public Health (CDPH) has received increasing reports of disseminated gonococcal infection (DGI) cases. DGI is a result of the spread of *Neisseria gonorrhoeae* to the bloodstream (bacteremia) and other parts of the body, which most commonly leads to septic arthritis, polyarthralgia, tenosynovitis, and skin lesions. Although rare, DGI can also lead to endocarditis or meningitis. DGI is commonly underdiagnosed due to the mostly asymptomatic nature of mucosal infection sites (e.g., urogenital, rectal, pharyngeal) and often negative culture results from disseminated infection sites (e.g., blood, synovial fluid, cerebral spinal fluid, skin)[1-6].

Local health jurisdictions should remain vigilant and report any suspected, probable, or confirmed DGI cases to the Sexually Transmitted Diseases (STD) Control Branch.

DGI Working Case Definitions

Suspect	• In the absence of a more likely diagnosis, clinical suspicion of DGI without meeting laboratory criteria.
Probable	• Clinical manifestations of DGI AND isolation or detection of *N. gonorrhoeae* from a mucosal site (e.g., urogenital, rectal, or pharyngeal)
Confirmed	• Isolation or detection of *N. gonorrhoeae* from a disseminated site of infection (e.g., skin, synovial fluid, blood, or CSF)

Disseminated Gonococcal Infection Working Case Definition (PDF)

Document updated 09/23/2021

Reporting of DGI

When there is clinical suspicion of a DGI case:

- ✓ Coordinate with the provider and/or lab to obtain specimens for culture from blood as well as other potential disseminated sites of infection (e.g. synovial fluid, skin, CSF), if feasible. In addition, nucleic acid amplification test (NAAT) **and** culture (if available) should be obtained from urogenital, pharyngeal, and rectal site(s), ideally prior to treatment.
- ✓ When possible, recommend the provider consult with their local infectious diseases specialist and local STD Controller. If unavailable, they may submit a consult to the STD Clinical Consultation Network (https://stdccn.org).

Report to the STD Control Branch

- ✓ Report any suspect, probable, and confirmed DGI cases to CDPH STD Control Branch to the CDPH DGI coordinator (lizzete.alvarado@cdph.ca.gov) and public health medical officer (eric.tang@cdph.ca.gov) **within one business day.**
- ✓ Complete information in the "Clinical Info Tab" in the CalREDIE incident, including checking the **"Disseminated Gonococcal Infection (DGI) – for gonorrhea cases only"** box for **probable** and **confirmed** cases (this box should not be checked for *suspect* cases).
- ✓ Upload relevant medical records to the electronic filing cabinet.
- ✓ Ensure adequate treatment was provided.
- ✓ Complete the Disseminated Gonococcal Infection Case Reporting Form, upload to the CalREDIE incident's electronic filing cabinet (EFC) and inform the STD Control Branch contacts above. The STD Control Branch will securely submit the form to the CDC on your behalf.

Coordinate Specimen Shipping (not applicable to Los Angeles County)
For questions about specimen shipping, contact STD Control Branch Public Health Medical Officer (eric.tang@cdph.ca.gov) and DGI project coordinator (lizzete.alvarado@cdph.ca.gov).

Initiate Case Investigation and Partner Services

This involves:

- ✓ Interviewing the patient to determine sociodemographic factors, sexual history (including gender of sex partners), travel history (outside the county), and recent exposures. In addition, ask about housing status, incarceration, and recreational drug use, including methamphetamine and injection drug use, within the past 12 months
- ✓ Eliciting sex partners from the infectious period (60 days from before symptom onset or test date if asymptomatic).
- ✓ Testing sex partners at all mucosal sites of exposure (pharyngeal, urogenital, and rectal) with NAAT (and culture, if available) and empirically treating them for uncomplicated gonorrhea. If they test positive for gonorrhea, partner services should be initiated.
- ✓ Empiric treatment for gonorrhea with Ceftriaxone 500 mg IM at the time of partner testing should be given. Empirically treat at time of testing, **Do NOT** wait for test results to be returned.
- ✓ If patients are unwilling to provide information on partners and/or would like to notify partners themselves anonymously, refer them to using tellyourpartner.org.
- ✓ If patients are unable to provide contact information on partners (i.e., anonymous partners), obtain information on where they met their partners and a description of their partners.
- ✓ Document all findings in CalREDIE.

Consult the STD Control Branch (as needed)

For assistance with:

- Clinical review
- Case and partner investigation
- Reporting
- Lab shipping

Contact STD Control Branch Public Health Medical Officer (eric.tang@cdph.ca.gov) and DGI project coordinator (lizzete.alvarado@cdph.ca.gov). For other related questions contact the CDPH STD Control Branch at **510-620-3400.**

Frequently Asked Questions

How should we treat DGI?

- See Recommended Treatment Table below.
- For more information on the diagnosis, management, and reporting of DGI, visit CDPH DGI FAQ for Health Care Providers (PDF)

How do we request state assistance for DGI investigations, including help with partner services?

- If your health department does not have the bandwidth to conduct partner services for DGI, reach out eric.tang@cdph.ca.gov and lizzete.alvarado@cdph.ca.gov.

What if I need expedited antimicrobial susceptibility testing done?

- **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.
- **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.

*Company and laboratory names are provided for informational purposes only. The California Department of Public Health and California Prevention Training Center do not endorse any company or its products. CPT copyright 2008 American Medical Association. All rights reserved.

Recommended Treatment

Circumstance	Recommended Treatment
Arthritis and Arthritis-Dermatitis Syndrome	Ceftriaxone 1 g IM or IV every 24 hours If chlamydial infection has not been excluded, providers should treat for chlamydia with doxycycline 100 mg orally 2 times/day for 7 days. **When treating for the arthritis-dermatitis syndrome, the provider can switch to an oral agent guided by antimicrobial susceptibility testing 24–48 hours after substantial clinical improvement, for a total treatment course of at least 7 days.**
Gonococcal Meningitis and Endocarditis	Ceftriaxone 1-2 g IV every 12-24 hours If chlamydial infection has not been excluded, providers should treat for chlamydia with doxycycline 100 mg orally 2 times/day for 7 days. No recent studies have been published on the treatment of DGI. The duration of treatment of DGI has not been systematically studied and should be determined in consultation with an infectious-disease specialist. Treatment for DGI should be guided by the results of antimicrobial susceptibility testing. Pending antimicrobial susceptibility results, treatment decisions should be made on the basis of clinical presentation. **Therapy for meningitis should be continued with recommended parenteral therapy for 10–14 days.** **Parenteral antimicrobial therapy for endocarditis should be administered for at least 4 weeks.**

If history of anaphylactic or other severe reaction to ceftriaxone, consult an infectious disease specialist or STD Clinical Consultation Network (stdccn.org)

References

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4. Wise CM, Morris CR, Wasilauskas BL, Salzer WL. Gonococcal Arthritis in an Era of Increasing Penicillin Resistance: Presentations and Outcomes in 41 Recent Cases (1985-1991). Arch Intern Med. 1994;154(23):2690-5.
5. Bleich AT, Sheffield JS, Wendel GD, et al. Disseminated Gonococcal Infection in Women. Obstet Gynecol. 2012;119(3):597-602.
6. Belkacem A, Caumes E, Ouanich J, et al. Changes patterns of disseminated gonococcal infection in France: cross-sectional data 2009-2011. Sex Transm Infect. 2013; 89:613-615.