



## GONORRHEA

Gonorrhea (GC) is a sexually transmitted disease (STD). The slang term “clap” is still commonly used to refer to this disease. GC is transmitted most often through sexual contact with an infected person. Serious complications of gonococcal infection, though uncommon, include pelvic inflammatory disease with subsequent infertility and ectopic pregnancy in women. Epididymitis and urethral narrowing may occur in men. Disseminated gonococcal infection (DGI) may occur in either gender, but is rare. Untreated infection in pregnancy may increase risk of miscarriage and premature delivery.

**Agent:** Organisms of the genus *Neisseria gonorrhoeae* (gonococci).

### Identification:

#### Symptoms:

**Males:** Infected males are usually symptomatic with purulent, greenish-yellow, or whitish urethral discharge often accompanied by pain with urination. ~10% asymptomatic for urethral infection.

**Females:** Usually asymptomatic (~50-70% of women). Symptomatic females may have abnormal vaginal discharge, abnormal menses, pelvic pain, or pain with urination.

#### Disseminated Gonorrhea Infection (DGI)

Although the incidence of DGI has declined in the past decades, it is important to note *N. gonorrhoeae* can cause bacteremia and systemic infection including arthritis, meningitis, endocarditis, and tenosynovitis and diffuse skin eruption characterized by small pustules.

**Differential Diagnosis:** In men: non-gonococcal urethritis, epididymitis, orchitis, testicular torsion, urinary tract infection (UTI), pharyngitis, and conjunctivitis. In females: vaginitis, PID, bacterial vaginosis, endometriosis, mucopurulent cervicitis, pregnancy, tubo-ovarian abscesses, pharyngitis or conjunctivitis.

#### Diagnosis:

##### History

Symptoms, when they occur vary depending on the site of infection:

- a) Women may present with vaginal discharge, lower abdominal pain, pain with intercourse, dysuria, post-coital and intermenstrual bleeding.
- b) Men usually present with pain with urination or discharge.
- c) Rectal infection in men and women is usually asymptomatic but may present as proctitis, which includes discharge (usually described as mucous on stools), tenesmus, perianal itching, rectal pain and possibly rectal bleeding.
- d) Pharyngeal infection in men and women, though usually asymptomatic, may present as sore throat or pain with swallowing.
- e) Disseminated Gonococcal Infections (DGI) cause a variety of symptoms such as arthritis, joint pain, tendon pain and skin lesions.

#### Physical Examination:

Signs of infection may or may not be present. If symptoms are present, may be:

- a) Cervix – mucopurulent or frankly purulent cervical discharge, redness, and friability.
- b) Urethra – purulent discharge, possibly phimosis and swelling, tender inguinal adenopathy.
- c) Rectum – purulent exudate (clinicians must use an anoscope for proper rectal examination).
- d) Pharynx – redness, exudate (most have no signs of infection and when present are nonspecific).

#### Laboratory:

- a) Nucleic acid amplification testing (NAAT) should be used to diagnose gonorrhea in the pharynx, vagina, cervix, urethra, and rectum. Specimens need to be properly labeled by site of specimen collection.
- b) The best genital tests in women are provider collected cervical or patient self-collected vaginal swabs (SCVS).
- c) Urine specimens should only be used for women who are not having a pelvic



examination and who refuse to collect a SCVS.

- d) Culture should be performed for cases of suspected treatment failure.

### **Diagnostic Criteria:**

Isolation of *N. gonorrhoeae* from sites of exposure (e.g. vagina, urethra, pharynx, endocervix, and rectum) by culture or NAAT.

**Incubation:** *Neisseria gonorrhoeae* has a short incubation period of 1-10 days (average 2-5) after exposure to an infected partner.

**Reservoir:** Humans are the only natural host for *Neisseria gonorrhoeae*.

**Source:** *Neisseria gonorrhoeae* bacteria which comes into physical contact with the mucosal surfaces of an uninfected sexual partner.

**Transmission:** Gonorrhea is easily transmitted through unprotected sexual contact with the penis, vagina, mouth, or anus of an infected partner. Ejaculation does not have to occur for GC to be transmitted or acquired. Gonorrhea can also be spread perinatally from mother to baby during childbirth. Gonorrhea can be passed to the eyes by hands or other body parts contaminated by infected fluids.

**Communicability:** Gonorrhea is highly communicable to both males and females.

### **SPECIFIC TREATMENTS:**

#### Uncomplicated Gonococcal Infections of the Cervix, Urethra, and Rectum

##### *Recommended Regimen*

Dual Therapy: Ceftriaxone 250 mg IM in a single dose PLUS Azithromycin 1g orally in a single dose

**Note:** Treatment should be provided as dual therapy, meaning ceftriaxone and azithromycin should be administered together on the same visit, direct observed therapy preferred (DOT).

**Alternative Regimens-** If ceftriaxone is not available:

Dual Therapy: Cefixime 400 mg orally in a single dose PLUS Azithromycin 1 g orally in a single dose

#### Uncomplicated Gonococcal Infections of the Pharynx (Throat)

##### *Recommended Regimen*

Ceftriaxone 250 mg IM in a single dose PLUS Azithromycin 1 g orally in a single dose

**Note:** Gonococcal infections of the pharynx are more difficult to eradicate than are infections at urogenital and anorectal sites. Therefore, oral cephalosporins (alternative regimens) may not cure pharyngeal infections.

#### Special Considerations - Allergy, Intolerance, and Adverse Reactions

Use of ceftriaxone or cefixime is contraindicated in persons with a history of an IgE-mediated penicillin allergy

Options for Treatment in Event of Allergy:

1. Dual Therapy: Single dose of intramuscular gentamicin 240 mg plus oral azithromycin 2 grams.
2. Dual Therapy: Single dose of oral gemifloxacin 320 mg plus oral azithromycin 2 grams.

#### Pregnancy & Neonates with Gonorrhea

Pregnant women infected with *N. gonorrhoeae* should be treated with:

1. Dual Therapy: Ceftriaxone 250 mg in a single IM dose and Azithromycin 1 g orally as a single dose.

#### Neonates Born to Mothers Who Have Gonococcal Infection

Neonates born to mothers who have untreated gonorrhea are at high risk for infection.

Neonates should be tested for gonorrhea at exposed sites and treated presumptively for gonorrhea.



Recommended Presumptive Treatment in the Absence of Signs of Gonococcal Infection for Neonates:

1. Ceftriaxone 25–50 mg/kg IV or IM in a single dose, not to exceed 125 mg.

Recommended Treatment of Gonococcal Conjunctivitis for Neonates:

1. Ceftriaxone 25–50 mg/kg IV or IM in a single dose, not to exceed 125 mg.

### **Gonococcal Infections in Infants and Children**

Sexual abuse must be considered a cause of gonorrhea infection in infants and children. This type of case requires consultation with DHSP Nursing Unit.

#### **Disseminated Gonorrhea Infection (DGI)**

Although the incidence of DGI has declined, it is important to note *N. gonorrhoeae* can cause bacteremia and systemic infection including arthritis, meningitis, endocarditis, and tenosynovitis and diffuse skin eruption characterized by small pustules.

DGI should be considered if a patient has signs of toxicity, fever, pustular skin lesions, stiff neck, headache, acute swelling, pain, erythema of a joint (often a single joint) and/or tenosynovitis - redness, swollen or tender tendon sheath(s).

Test all sites (genital, oral, rectal) for gonorrhea and refer to hospital for blood culture and other work up.

Hospitalize for initial therapy, especially for patients who cannot comply with recommended treatment, those in whom the diagnosis is uncertain, or those with purulent synovial effusions or other complications. Observe closely for endocarditis or meningitis.

#### **Recommended Therapy for DGI**

Parenteral therapy should be provided for 24-48 hours after clinical improvement, then switch to an oral regimen to complete at least 1 week of antimicrobial therapy. A cephalosporin-based intravenous regimen is recommended for the initial treatment of DGI. This is particularly important when gonorrhea is detected at mucosal

sites by non-culture tests. Fluoroquinolones may be an alternative treatment option if antimicrobial susceptibility can be documented by culture.

#### **Parenteral Therapy/Arthritis-Dermatitis Syndromes**

##### *Antibiotic of choice*

Ceftriaxone 1 gm IM or IV every 24 hours, PLUS Azithromycin 1 Gram PO. followed by oral therapy

##### *Alternative Therapy*

Cefotaxime 1g IV every 8 hours, followed by oral therapy Azithromycin 1 Gram (or)

Ceftozoxime 1g IV every 8 hours, followed by oral therapy Azithromycin 1 Gram  
Followed-by oral therapy

#### **Parenteral Therapy/Meningitis/Endocarditis**

Ceftriaxone -21 gm IM or IV every 12-24 hours, PLUS Azithromycin 1 Gram PO single dose (for Meningitis 10-14 days/treatment for endocarditis 4 week treatment)

### **CLINICAL FOLLOW-UP OF GONORRHEA**

#### **A. Test-of-cure (TOC):**

1. Is not needed for persons who receive a diagnosis of uncomplicated urogenital or rectal gonorrhea who are treated with any of the recommended or alternative regimens.
2. A person with pharyngeal gonorrhea who is treated with an alternative regimen should return 14 days after treatment for a test-of cure using either culture or NAAT. If the NAAT is positive, effort should be made to perform a confirmatory culture before retreatment.
3. All positive cultures for test-of-cure should undergo antimicrobial susceptibility testing.
4. Symptoms that persist after treatment should be evaluated by culture for *N. gonorrhoeae* (with or without simultaneous NAAT), and any gonococci isolated should be tested for antimicrobial susceptibility. However, re-infection by an untreated sex partner should first be ruled out by history.



## **B. RE-TESTING:**

1. Men or women who have been treated for gonorrhea should be retested 3 months after treatment.
2. If retesting at 3 months is not possible, clinicians should retest whenever the person presents for medical care within 12 months following initial treatment.

## **C. TREATMENT FAILURE**

1. If treatment failure is suspected (persistent symptoms in absence of re-exposure or a positive NAAT test of cure) culture should be performed.
2. Infections occurring after treatment with combined therapy are more likely to be due to re-infection rather than treatment failure. Patients should be questioned regarding the possibility of re-infection, including any new sex partners or repeated exposure to an untreated partner.
3. Treatment for Suspected Treatment Failure: A) Gentamicin 240 mg IM PLUS Azithromycin 2 grams PO, OR B) Gemifloxin 320 mg PO PLUS Azithromycin 2 grams PO.
4. TOC in 7-14 days with NAAT, or culture.
5. Treat all partners in the last 60 days.
6. If the person is re-infected, repeat treatment with standard Ceftriaxone 250 mg IM PLUS Azithromycin 1 gram PO.

### **Standard Testing and Screening Guidelines:**

**Females:** <25 years annually, >25 years if at risk (risk defined as CT, or GC infection in past 2 years), > 1 sex partner in past 12 months, new SP in past 3 months, contact to STD)

**MSM:** At least annually. Exposed sites: urogenital, rectal, pharynx.

**Hetero Males:** Testing in high prevalence settings.

**HIV+:** At least annually, all exposed sites.

**Patients on PrEP:** Every 3 months.

**Past GC Treatment:** All patients, 3 months after initial treatment.

**Immunity:** Gonorrhea can be acquired repeatedly with no apparent development of protective immunity.

### **Public Health Nursing Protocol:**

Required Home visit vs. Telephone Interview may be required for cases

Refer to "Public Health Nursing STD Algorithms ([B-73 Part IV Public Health Nursing Home Visit/Telephone Protocol](#)).

## **REPORTING PROCEDURES**

**Report any case or suspected cases by CMR** to DHSP within 7 days of identification. (Title 17, Section 2500. *California Code of Regulations*)

1. **Report Form: STD-CMR**
2. For more information on reporting- [www.publichealth.lacounty.gov/dhsp/ReportCase.htm](http://www.publichealth.lacounty.gov/dhsp/ReportCase.htm)

## **CONTROL OF CASE AND SEXUAL CONTACTS**

**Case/Index at risk for Gonorrhea:**

1. A person who has a diagnosis of Gonorrhea.
2. Sexual contact/partners to index.
3. Pregnant females diagnosed with Gonorrhea, or pregnant sexual contacts/partners of index case.

**Management of Sex Partners/Sexual Contacts**

1. Partners having sexual contact with the infected patient within the 60 days preceding onset of symptoms or Gonorrhea diagnosis should be referred for evaluation, testing, and presumptive dual treatment.
2. If the patient's last potential sexual exposure was >60 days before onset of symptoms or diagnosis, the most recent sex partner should be treated.



3. To avoid reinfection, sex partners should be instructed to abstain from unprotected sexual intercourse for 7 days after they and their sexual partner(s) have completed treatment and after resolution of symptoms, if present.

#### Expedited Partner Therapy (EPT)

Intended for sexual partners of index cases diagnosed with GC. Medication can be delivered to the partner by the patient, a disease investigation specialist, or a collaborating pharmacy as permitted by law.

Recommended regimen:

1. EPT with Cefixime 400 mg PO and Azithromycin 1 gram PO

Note: *EPT should not be considered the first line partner management strategy in MSM with gonorrhea because of a high risk for coexisting infections (especially HIV infection).*

#### **PREVENTION EDUCATION:**

##### **Partner Services (PS)/ Targeted Case Management (TCM) (PHN/PHI)**

Targeted Case Management (TCM) is the systematic pursuit, documentation, and analysis of medical and epidemiologic case information that focuses on opportunities for disease intervention. Partner Services are a broad array of services such as partner notification, prevention counseling, STD testing and treatment and linkage to care, or other types of prevention services (e.g., reproductive health, Prenatal care, substance abuse referral, etc.)

#### PRE-Interview Analysis

1. Establish the reason for the initial examination (RFE).
2. Establish possible history of Gonorrhea Infection.
3. Establish an Interview Period (60 days preceding the onset of symptoms or diagnosis, or assessing last sexual exposure > 60 days), based on available medical or case-related information,

4. Establish information objectives (e.g., relationship to other cases),
5. Review all available medical and case information; assess missing elements in order to provide Partner Services (i.e. inadequate/missing treatments, missing laboratory tests).
6. Review Case Number/Patient Name/Date of Interview/Diagnosis, etc.
7. Review interview record.
8. Review laboratory results/medical reports.
9. Review a copy of the infected patient's Field Record (FR)/Health Department Follow-Up (HDFU), if applicable/all associated field records (partners, suspects, and associates).
10. Initiate case documents/field notes in a logical sequence.

#### **PHN/PHI will Conduct Index or Contact Interviews:**

The PHN/PHI conducts these interviews preferably in person and always in confidence. Telephone interviews are permissible per approved algorithms.

#### **Child Abuse/Child Neglect-Mandated Reporting**

Sexual abuse and child neglect reporting are required by California law. PHNs/PHIs are mandated reporters. This includes the reporting of sexual partners of disparate age and is required regardless of disease intervention priorities. California Penal Code §§11165.7, 11166, and 11167.

#### ***PHN/PHI Initiates Interview:***

The primary objective of the interview is to help the client manage their infection. The PHN/PHI ensures that each client is educated in regards to Gonorrhea. The following topics shall be discussed with patient:

#### **Interview Process:**

1. Introduce her/himself, explain his/her professional role and the purpose of the session.
2. Maintain confidentiality, in the context of (PS). Confidentiality refers to keeping information about index, partners, or contacts in confidence.



3. Manage risk through prevention counseling.
4. Ensure patient understands mode of transmission, symptomatic/asymptomatic nature of disease/risk of re-infection, and complications and consequences.
5. Assess patient's self-perception of risk, higher chance of getting/giving other STDs/HIV, and the importance of referral of sex partners and other high-risk persons (i.e. pregnant partners) for treatment to protect their health and reduce the spread of disease.
6. If applicable, assess patient's understanding of negative consequences to fetus if she delivers while being infected with Gonorrhea.
7. Link patient to medical evaluation and treatment; plan counseling/testing or referral for other STDs (i.e., Chlamydia, Syphilis, HCV), HIV medical care if HIV positive, and HIV prevention services (including PrEP/PEP) as applicable.
8. Plan to follow-up regarding any pending referral/treatment plans.

#### **Partner Elicitation/Field Records FR**

1. Initiate a Field Record for all interview period partners that have adequate locating information. The Interview Period is the time from the earliest date the patient could have been infected to the date of treatment.
2. Initiate a Field Record for other high-risk individuals such as non-sex partners who are symptomatic or someone who is part of index's sexual network (if applicable).

#### **DOCUMENTATION**

**The PHN/ PHI documents the results of interviews, referral forms and laboratory results in STD Case watch (CW).**

**Ensure CW Referral Forms Include the following:**

1. Determination of client's understanding of reason for the initial examination (RFE).
2. Established possible history of Gonorrhea infection.
3. Medical and case information in such a

- manner as to establish the reason for the initial examination.
4. An interview period based on available medical or case-related information. An Interview Period (60 days preceding the onset of symptoms or diagnosis, or assessing last sexual exposure > 60 days).
5. Case Number/Patient Name/Date of Interview/Diagnosis, etc.
6. Complete interview record.
7. Gonorrhea treatment/ preventive treatments.
8. Laboratory results & follow up testing/medical reports.
9. Infected patient's FR/HDFU, if applicable/all associated field records (partners, suspects, and associates).
10. Case documents/field notes in a logical sequence.

#### **QUALITY ASSURANCE & CLOSURE REVIEW (LEVEL I and LEVEL II)**

Cases are to be closed within 30 days from assignment to PHN/PHI with all associated/required case management forms. Documents must be legible, thorough, and written in a concise manner. Closure may be extended by supervisor if needed. Cases not meeting closure criteria will be re-routed for further investigation.

#### **OTHER RESOURCES:**

- 1) Addendum: DHSP STD Clinic Manual Sections/Gonorrhea Rev Nov. 2016
- 2) CDC. Recommendations for partner services programs for HIV infection, syphilis, gonorrhea, and chlamydial infection. MMWR Recomm Rep 2008; 57(No. RR-9).
- 3) CDC. Sexually Transmitted Diseases
- 4) Treatment Guidelines, MMWR Recommendations and Reports 2015;64
- 5) Syphilis and STD resources at [www.publichealth.lacounty.gov/dhsp/InfoForProviders.htm](http://www.publichealth.lacounty.gov/dhsp/InfoForProviders.htm)