

## GONORRHEA

### REPORTING INFORMATION

- **Class B2:** Report by the end of the business week in which the case or suspected case presents and/or a positive laboratory result to the local public health department where the patient resides. If patient residence is unknown, report to the local public health department in which the reporting health care provider is located.
- Reporting Form(s) and/or Mechanism: [Ohio Confidential Reportable Disease form](#) (HEA 3334, rev. 1/09), [Positive Laboratory Findings for Reportable Disease form](#) (HEA 3333, rev. 8/05), the local health department via the Ohio Disease Reporting System (ODRS), or telephone.
- Additional reporting information, with specifics regarding the key fields for ODRS Reporting can be located in [Section 7](#).

### AGENT

*Neisseria gonorrhoeae* (*N. gonorrhoeae*), is a gram-negative diplococcal bacterium.

### CASE DEFINITION

#### Clinical Description

A sexually transmitted infection commonly manifested by urethritis, cervicitis, and salpingitis. Infection may be asymptomatic.

#### Laboratory Criteria for Diagnosis

- Isolation of typical gram-negative, oxidase-positive diplococci (presumptive *N. gonorrhoeae*) from a clinical specimen *or*
- Demonstration of *N. gonorrhoeae* in a clinical specimen by detection of antigen or nucleic acid *or*
- Observation of gram-negative intracellular diplococci in a urethral smear obtained from a male

#### Case classification

Suspect: A clinically compatible case without laboratory or medical confirmation.

Probable: A clinically compatible case where there is:

- Demonstration of gram-negative intracellular diplococci in an endocervical smear obtained from a female *or*
- A written morbidity report of gonorrhea submitted by a physician.

Confirmed: A case that is laboratory confirmed.

Not a Case: This status will not generally be used when reporting a case, but may be used to reclassify a report if investigation revealed that it was not a case.

### SIGNS AND SYMPTOMS

Gonorrheal infection may be symptomatic or asymptomatic. When symptomatic, men usually have dysuria, urinary frequency, and/or purulent urethral discharge. Women may have abnormal vaginal discharge, dysuria, and/or vaginal bleeding between menstrual periods. Diffuse pelvic inflammatory disease (PID) may cause fever along with pain and tenderness of the pelvic organs and lower abdomen. Pharyngeal infection and anorectal infection in men and women may be asymptomatic. Symptoms of anorectal

infection may include discharge, anal itching, soreness, bleeding, or painful bowel movements. The symptom of pharyngeal infection is a sore throat, but pharyngeal infection is usually asymptomatic.

## **DIAGNOSIS**

Recent technological advances have provided DNA and RNA amplification tests, often urine based, thus avoiding specimen collection problems. Two methods currently approved by the FDA include Ligase Chain Reaction (LCR) and Transcription Mediated Amplification (TMA). Amplification tests are known to be highly sensitive to the presence of disease, with good results for specificity as well. At present, the high cost of these tests may limit their usefulness to specific screening applications.

In conjunction with the above tests, the diagnosis of PID is made on the basis of clinical signs and symptoms. Clinical diagnosis of PID may be made if the patient has acute lower abdominal pain and two or more of the following signs and symptoms: abnormal vaginal discharge, fever, vomiting, menstrual irregularities, urinary symptoms, proctitis symptoms, marked tenderness of the pelvic organs on bimanual examination, palpable adnexal mass or swelling and an erythrocyte sedimentation rate more than 15 mm/hr.

## **EPIDEMIOLOGY**

### **Source**

Humans, sexually transmitted in most cases.

### **Occurrence**

The incidence of gonorrhea is partly dependent on age: 83% of reported cases in the United States occur in persons 15-29 years of age, with 38% of cases 20-24 years of age.

Gonorrhea continues to be one of the most common sexually transmitted diseases despite the ability to cure it in most instances. Its spread is continuing because of increased sexual activity with multiple partners, high rates of reinfection, the emergence of resistant strains, and the increased frequency of asymptomatic infections.

### **Mode of Transmission**

The risk of transmission of gonorrhea is dependent upon the anatomic site(s) exposed and infected. The risk of acquiring urethral infection for a man following a single episode of vaginal intercourse with an infected woman is about 20%; the risk increases to 60% - 80% after four exposures. The prevalence of infection in women named as secondary sex contacts of men with gonococcal urethritis has been reported to be about 90%, but no published studies have controlled for number of exposures. It is probable that the single-exposure transmission risk from male to female is higher than from female to male. The risk of transmission by other types of sexual contact is not well defined. Use of hormonal contraception by women may or may not increase the risk of acquiring gonorrhea. Transmission by fomites or by nonsexual personal contact probably accounts for some cases of gonorrhea in infants but is extremely rare in other settings.

**Period of Communicability**

Indefinite, until patient is adequately treated and cured. Carriers may be asymptomatic.

**Incubation Period**

Incubation is generally 3-8 days, with a range of 1-14 days in men and within 10 days for women.

**PUBLIC HEALTH MANAGEMENT****Case**

Refrain from sexual intercourse until effective treatment is completed. Epidemiologic investigation for source of infection and sexual contacts.

Treatment

Consult the most recent Centers for Disease Control and Prevention (CDC)-published "STD Treatment Guidelines" for recommended therapy. Copies of the guidelines are available from the Ohio Department of Health (ODH) HIV/STD Prevention Program at 614-466-2446 and on the internet at the CDC Web site:

<http://www.cdc.gov/STD/treatment>.

Isolation

None.

Public Health Significance

The major complications of acute gonorrhea in women are:

- 10%-20% risk of developing PID
- subsequent risk for acute and chronic complications such as chronic pelvic pain, infertility and increased risk of ectopic pregnancy

The major complications in men are:

- epididymitis
- urethral stricture
- infertility, temporary or permanent

The major complications in neonates are:

- ophthalmia neonatorum
- blindness
- scalp abscess (at site of fetal monitor)
- rhinitis
- pneumonia
- anorectal infection
- joint infection

Additional major complications in any untreated individual include:

- arthritis
- dermatitis
- endocarditis
- meningitis
- septicemia

**Contacts**

All sexual contacts exposed within 30 days should be tested and treated. Treatment of sex partners is essential to prevent disease spread and avoid repeat exposures. Re-exposure to an asymptomatic sex partner not treated simultaneously is the most common source of repeat infection.

**Prevention and Control**

Sexually transmitted diseases can be prevented by abstinence or condom use. Ophthalmia neonatorum may be prevented by third-trimester treatment of cervically infected mothers and their sexual partners. Ocular prophylaxis of all newborns with ointments of 1 percent tetracycline or 0.5 percent erythromycin is recommended.

**What is gonorrhea?**

Gonorrhea is a sexually transmitted disease (STD). Gonorrhea is caused by *Neisseria gonorrhoeae*, a bacterium that can grow and multiply easily in the warm, moist areas of the reproductive tract, including the cervix (opening to the womb), uterus (womb), and fallopian tubes (egg canals) in women, and in the urethra (urine canal) in women and men. The bacterium can also grow in the mouth, throat, eyes, and anus.

**How common is gonorrhea?**

Gonorrhea is a very common infectious disease. The Centers for Disease Control and Prevention (CDC) estimates that more than 700,000 persons in the U.S. get new gonorrheal infections each year. Only about half of these infections are reported to CDC. In 2006, 358,366 cases of gonorrhea were reported to CDC. In the period from 1975 to 1997, the national gonorrhea rate declined, following the implementation of the national gonorrhea control program in the mid-1970s. After several years of stable gonorrhea rates, however, the national gonorrhea rate increased for the second consecutive year. In 2006, the rate of reported gonorrheal infections was 120.9 per 100,000 persons.

**How do people get gonorrhea?**

Gonorrhea is spread through contact with the penis, vagina, mouth, or anus. Ejaculation does not have to occur for gonorrhea to be transmitted or acquired. Gonorrhea can also be spread from mother to baby during delivery.

People who have had gonorrhea and received treatment may get infected again if they have sexual contact with a person infected with gonorrhea.

**Who is at risk for gonorrhea?**

Any sexually active person can be infected with gonorrhea. In the United States, the highest reported rates of infection are among sexually active teenagers, young adults, and African Americans.

**What are the signs and symptoms of gonorrhea?**

Some men with gonorrhea may have no symptoms at all. However, some men have signs or symptoms that appear two to five days after infection; symptoms can take as long as 30 days to appear. Symptoms and signs include a burning sensation when urinating, or a white, yellow, or green discharge from the penis. Sometimes men with gonorrhea get painful or swollen testicles.

In women, the symptoms of gonorrhea are often mild, but most women who are infected have no symptoms. Even when a woman has symptoms, they can be so non-specific as to be mistaken for a bladder or vaginal infection. The initial symptoms and signs in women include a painful or burning sensation when urinating, increased vaginal discharge, or vaginal bleeding between periods. Women with gonorrhea are at risk of developing serious complications from the infection, regardless of the presence or severity of symptoms.

Symptoms of rectal infection in both men and women may include discharge, anal itching, soreness, bleeding, or painful bowel movements. Rectal infection also may cause no symptoms. Infections in the throat may cause a sore throat but usually causes no symptoms.

### **What are the complications of gonorrhea?**

Untreated gonorrhea can cause serious and permanent health problems in both women and men.

In women, gonorrhea is a common cause of pelvic inflammatory disease. About one million women each year in the United States develop PID. The symptoms may be quite mild or can be very severe and can include abdominal pain and fever. PID can lead to internal abscesses (pus-filled "pockets" that are hard to cure) and long-lasting, chronic pelvic pain. PID can damage the fallopian tubes enough to cause infertility or increase the risk of ectopic pregnancy. Ectopic pregnancy is a life-threatening condition in which a fertilized egg grows outside the uterus, usually in a fallopian tube.

In men, gonorrhea can cause epididymitis, a painful condition of the ducts attached to the testicles that may lead to infertility if left untreated.

Gonorrhea can spread to the blood or joints. This condition can be life threatening. In addition, people with gonorrhea can more easily contract HIV, the virus that causes AIDS. HIV-infected people with gonorrhea can transmit HIV more easily to someone else than if they did not have gonorrhea.

### **How does gonorrhea affect a pregnant woman and her baby?**

If a pregnant woman has gonorrhea, she may give the infection to her baby as the baby passes through the birth canal during delivery. This can cause blindness, joint infection, or a life-threatening blood infection in the baby. Treatment of gonorrhea as soon as it is detected in pregnant women will reduce the risk of these complications. Pregnant women should consult a health care provider for appropriate examination, testing, and treatment, as necessary.

### **How is gonorrhea diagnosed?**

Several laboratory tests are available to diagnose gonorrhea. A doctor or nurse can obtain a sample for testing from the parts of the body likely to be infected (cervix, urethra, rectum, or throat) and send the sample to a laboratory for analysis. Gonorrhea that is present in the cervix or urethra can be diagnosed in a laboratory by testing a urine sample. A quick laboratory test for gonorrhea that can be done in some clinics or doctor's offices is a Gram stain. A Gram stain of a sample from a urethra or a cervix allows the doctor to see the gonorrhea bacterium under a microscope. This test works better for men than for women.

### **What is the treatment for gonorrhea?**

Several antibiotics can successfully cure gonorrhea in adolescents and adults. However, drug-resistant strains of gonorrhea are increasing in many areas of the world, including the United States, and successful treatment of gonorrhea is becoming more difficult. Because many people with gonorrhea also have chlamydia, another STD, antibiotics for both infections are usually given together. Persons with gonorrhea should be tested for other STDs.

It is important to take all of the medication prescribed to cure gonorrhea. Although medication will stop the infection, it will not repair any permanent damage done by the disease. People who have had gonorrhea and have been treated can get the disease again if they have sexual contact with persons infected with gonorrhea. If a person's

symptoms continue even after receiving treatment, he or she should return to a doctor to be reevaluated.

**How can gonorrhea be prevented?**

The surest way to avoid transmission of STDs is to abstain from sexual intercourse, or to be in a long-term mutually monogamous relationship with a partner who has been tested and is known to be uninfected.

Latex condoms, when used consistently and correctly, can reduce the risk of transmission of gonorrhea.

Any genital symptoms such as discharge or burning during urination or unusual sore or rash should be a signal to stop having sex and to see a doctor immediately. If a person has been diagnosed and treated for gonorrhea, he or she should notify all recent sex partners so they can see a health care provider and be treated. This will reduce the risk that the sex partners will develop serious complications from gonorrhea and will also reduce the person's risk of becoming re-infected. The person and all of his or her sex partners must avoid sex until they have completed their treatment for gonorrhea.