

## **Chlamydia**

### **Basics:**

Chlamydia is the most common sexually-transmitted bacterial disease (STD) in the US. Chlamydia is a bacterial infection that is transmitted during contact with the genital or rectal area of an infected person. The majority of people who contract Chlamydia are under the age of 25. It is a disease that often does not produce symptoms, so it's possible to have it, not realize it, and pass it to someone else unknowingly. The one absolute way of preventing Chlamydia is to avoid genital sexual contact. Chlamydia is treated with antibiotics.

Chlamydia is often called "the silent epidemic." People with Chlamydia may have very mild symptoms or no symptoms at all, so the condition is often overlooked. If left untreated this infection can lead to serious damage to the reproductive organs. For women these complications include pelvic inflammatory disease (PID), infertility, and a dangerous condition of pregnancy called ectopic pregnancy. This happens when the embryo starts growing outside of the womb, usually in one of the fallopian tubes. As the fetus develops, it can cause a life-threatening rupture of the tube.

Men may suffer from an inflammation of the duct that drains the testis, a condition called epididymitis. Less common is inflammation of the testicles (orchitis). There is also a risk of infertility.

Chlamydia can be treated and cured with antibiotics easily and quickly. Sexual partners of a person with Chlamydia should also receive antibiotic treatment to prevent transmitting the disease back to their partner.

### **Causes:**

Chlamydia is transmitted from bacteria carried by humans. Chlamydia is usually passed from person to person through sexual activity. The infection is transmitted during contact with the genital or rectal area of an infected person. It can also be transmitted from a mother to her baby during birth. Chlamydia is not transmitted through casual contact (toilet seats, hot tubs, saunas, or swimming pools).

### **Symptoms:**

Chlamydia can be present for months without producing any uncomfortable symptoms [Table 1]. Because Chlamydia does not always cause symptoms, it is called an asymptomatic disease. Symptoms of Chlamydial infection, when and if they do occur, are discharge from the penis or vagina, and pain and burning with urination in women and men. Although less common, pain and swelling can occur that is localized in the eye

(conjunctivitis), sex organs, (swelling of the fallopian tubes) or rectum (proctitis). Pain and swelling in the liver has been known to occur but it is very rare.

Up to 70% of women and 25% of men with Chlamydial infection have no symptoms. However, some people have symptoms as soon as seven to ten days after exposure to the bacteria.

<b>Table 1. Symptoms of Chlamydial Infection</b>	
<b>Women</b>	<b>Men</b>
An unusual, yellowish vaginal discharge	Pus or watery or milky discharge from the penis
Itching or burning in the genital area	Burning with urination
Abdominal or pelvic pain	Swollen and/or painful testes
Burning with urination	Frequent urination
Low-grade fever	Burning or itching at the opening of the penis
Urge to urinate more than usual	
Bleeding between menstrual periods	
Bleeding after intercourse	

**Risk Factors:**

Young people who engage in high-risk sexual activity have the greatest risk of acquiring Chlamydia. If you are sexually active and have more than one partner, you put yourself at greater risk for getting Chlamydia. However, certain types of sexual behavior increase your risk even further. The type of contraception, if any, that you use, your rate of acquiring partners, your number of casual partners, your sexual preference, and type of sexual practice are factors to consider when trying to determine your risk. For example, gay men are less likely to get Chlamydia because the rectum and the throat are much less susceptible to the bacteria than is the inner cervical area of women (located in the upper part of the vagina). Vaginal sex, as opposed to anal or oral sex, is the way that Chlamydia is most commonly spread.

Women are at a greater risk of Chlamydia than men. The internal part of the cervix is the most susceptible to infection. A penis is protected by skin, which is not as porous. The penis has only one small opening at the tip that reveals any tissue that the bacteria is able to enter through.

The rate of infection is highest among women ages 15-19, and is especially high among members of lower socioeconomic groups.

<b>Table 2. Risk Factors for Chlamydial Infection</b>
Age (under 25)
Being female
Multiple sex partners
Infected sex partner
Inconsistent use of barrier contraceptives

Sex while under the influence of drugs or alcohol
High rate of acquiring new partners
Having partners who have multiple partners themselves

**Diagnosis:**

Your health care professional will ask you for a thorough sexual history [Table 3]. The idea of describing your sexual history to someone that you may or may not be familiar with is one of the more uncomfortable aspects of the visit. Your health provider will want to know how many sexual partners you currently have, what kind of sex you engage in, and your history of other STDs. Even though this might be embarrassing to talk about, it will be difficult to help yourself or your partners if you are not honest about your sexual practices. By going to see your medical provider, you have decided to take care of yourself and to take responsibility for your decisions. Having a mature discussion about your sexual behavior can ensure that you receive proper treatment. Should you choose to continue to engage in high-risk sexual practices, it is crucial that you understand how your lifestyle affects your health and the health of others. The visit and discussion is an opportunity to become educated.

Your sexual history is important to the doctor even if you do not display any symptoms. If you are in a high-risk group for getting Chlamydia, your doctor will want to test you for a number of STDs, as it is possible to have several at the same time.

<b>Table 3. Elements of a Sexual History</b>
<b>Number of sexual partners:</b>
Since past evaluation
In the past 60 days
In the past year
In your lifetime
<b>Sexual preference:</b>
Do you have sex with men only, women only, or both men and women?
<b>Types of partners:</b>
Do you have sex with the same partners on a regular basis, or are your relationships more casual; that is, do you have sex with one person only once, another person every once in a while, etc?
<b>How recent is your newest sexual partner?</b>
Within 30 to 60 days?
<b>Sexual Practices</b>
Do you have vaginal intercourse, oral, or rectal intercourse?
<b>Types of contraception:</b>
Do you use the barrier methods of condoms or diaphragm? How often do you use condoms or diaphragms? Every time you have sex, or only some of the times you have sex?
<b>History of sexually transmitted diseases:</b>
What STDs, if any, have you already had? (Chlamydia, gonorrhea, pelvic inflammatory disease, herpes, syphilis, and warts)

After taking your sexual history, your health provider will perform a physical examination. In a physical examination, your health professional will: 1) look for discharge or sores (lesions) in your pubic area and your external genital and rectal area; 2) carefully apply mild pressure around the groin area and other areas of the body to check for swelling and discharge; and 3) obtain samples of genital secretions for laboratory testing. If you are a woman, it is likely that a pelvic examination will be done as well.

Screening can also be done without a physical exam using urine specimens or, in women, with a self-obtained vaginal swab.

Laboratory tests are used to confirm a diagnosis. Tests are performed on either a urine sample or a discharge sample from a woman's cervix or a man's urethra, which is obtained by using a cotton swab. The sample is then sent to a lab for examination.

Avoid engaging in high-risk sexual activity. Do not have sex with people whom you think have multiple partners. Do not have sex while you are under the influence of drugs or alcohol. You are less likely to use a condom if you are intoxicated and, because your judgment will be impaired, you are less likely to be careful about whom you decide to sleep with.

Limit your number of sex partners. Because Chlamydia is transmitted through sexual contact with infected individuals, if you stop having casual sex with multiple sexual partners, you will reduce your risk of acquiring the disease.

Use barrier methods of contraception, preferably a condom every time you have sex to prevent Chlamydial infection. Use a reliable backup method of birth control, such as the pill, to prevent pregnancy. Using barrier methods of birth control, such as latex or polyurethane condoms or a diaphragm, can decrease the chances that bacteria will be transmitted from your partner to you or vice versa. It is highly recommended that you use condoms instead of a diaphragm if you are sexually active, but not in a monogamous relationship. The diaphragm may protect you against Chlamydia, but it won't protect you from other diseases, such as AIDS. Condoms are easier to use than a diaphragm, and are readily available in your local drugstore or supermarket. Condoms should only be used before their expiration date, and when no obvious signs of defects or damage are visible. They should be worn before any sexual contact is made with the penis, and each condom should be used only once.

The US government's Centers for Disease Control and Prevention recommend the following:

*Use a new condom with each act of intercourse.*

*Carefully handle the condom to avoid damaging it with fingernails, teeth, or other sharp objects.*

*Put the condom on after the penis is erect and before any genital contact with your partner.*

*Ensure that no air is trapped in the tip of the condom.*

*Ensure adequate lubrication during intercourse, possibly requiring use of lubricants such as K-Y Jelly or glycerin. Never use oil-based lubricants such as petroleum jelly, shortening, mineral oil, massage oils, body lotions, or cooking oil. Oil can weaken latex, leading to tears in the condom.*

*Hold the condom firmly against the base of the penis during withdrawal.*

*Withdraw while the penis is still erect to prevent slippage.*

*Besides using condoms, it is also recommended that you protect yourself against pregnancy by using a very reliable method of birth control, such as the pill or Depovera injections. Talk to your health care professional about options.*

If you have more than one partner, and particularly if you are under the age of 25, get tested regularly, even if you do not have symptoms. Tests are affordable, easily obtained at any clinic or doctor's office, and highly recommended for women under the age of 25 whenever pelvic examinations are done.

If you have recently been treated for a Chlamydia infection, make sure your sex partner also receives treatment. Even in the absence of symptoms, your sex partner should be tested and treated if necessary. To avoid being reinfected with Chlamydia, avoid sexual intercourse or use condoms for at least one week while you and your partner(s) are taking medicine.

### **Urgent Care:**

See a doctor or go to a clinic if you if you've engaged in high-risk sexual activity, whether or not you have developed symptoms. If you've recently engaged in high-risk sexual activity (sex without a condom, sex with someone you think might be infected, etc), you should be tested. If you notice any unusual discharge or lesions on your pubic area, definitely make an appointment to see your health provider. You will be checked for tenderness, swelling, and pain in the groin, or other parts of the body. Mention any possible exposure to Chlamydia you may have had in recent months.

Patients with Chlamydia do not need to be hospitalized unless potentially dangerous complications such as pelvic inflammatory disease (PID) develop. In patients who develop pelvic inflammatory disease (PID), hospitalization may be necessary.

PID is disease of the female upper reproductive tract (uterus, ovaries, fallopian tubes) that is primarily caused by sexually transmitted bacterial infections. The usual symptoms of PID are fever, chills, lower abdominal and pelvic pain, and vaginal discharge or bleeding. Over time, it can also cause infertility, which is the inability to have children.

Approximately 50% of all PID cases are thought to be the result of a Chlamydia infection. PID is the single most important risk factor for tubal (ectopic) pregnancy. A tubal pregnancy happens when the embryo implants and starts growing someplace outside of the womb, usually in one of the fallopian tubes. This can cause a life-threatening rupture of the tube. The massive internal bleeding that an ectopic pregnancy often causes can result in death.

Particularly when caused by Chlamydial infection, PID may produce only minor symptoms or no symptoms at all, even though it can seriously damage the reproductive organs.

### **Drug Therapy:**

Your doctor is the best source of information on the drug treatment choices available to you.

### **Special Circumstances:**

Pregnant women and nursing mothers should be treated promptly if Chlamydia is suspected. Studies show that infected pregnant women who receive prompt antibiotic therapy have significantly lower rates of premature delivery, rupture of membranes, and low birth weight.

Pregnant mothers infected with Chlamydia can pass the disease on to their newborns. Chlamydia infection can cause early labor and delivery, and can be passed from mother to baby during birth. Between 20% and 50% of newborn infants can develop an eye infection (Chlamydial conjunctivitis) and pneumonia if mothers are not treated promptly. Symptoms of Chlamydial conjunctivitis usually begin within four weeks of birth but it can be successfully treated with antibiotics. In extremely rare situations, the conjunctivitis can cause blindness. Chlamydial pneumonia is a serious infection, but it also usually responds to antibiotics.

It is possible to have Chlamydia and another STD at the same time. Before you are treated, all other infections must be identified in order for you to receive the right antibiotic. If you are currently being treated for another sexually transmitted disease, tell your doctor. Gonorrhea, another common STD, is often seen in patients who also have Chlamydia.

### **Prognosis:**

Chlamydia is usually completely curable, especially when it is treated in the early stages. Chlamydia is often eliminated through a single dose of antibiotics. This single dose can be a packet of powder that you mix with water, which you then drink, or it can be several capsules taken at one time. You could be prescribed a course of antibiotics to take over the period of a week. Either method is effective. In pregnant women, antibiotic treatment is successful in nine out of ten cases.

Treatment can fail, usually because of reinfection by untreated sex partners, or not taking your medication as directed.

If left untreated, Chlamydia can cause serious complications, including infertility. Untreated Chlamydia infections can spread to the pelvic area and infect the uterus, fallopian tubes, and ovaries, leading to pelvic inflammatory disease (PID) in women. PID may cause permanent damage to a woman's reproductive organs, and can lead to infertility, chronic pelvic pain, and increased risk of ectopic pregnancy. An ectopic pregnancy happens when the embryo starts growing outside of the womb, usually in one of the fallopian tubes. As the fetus develops, it can cause a life-threatening rupture of the tube.

Swollen, painful testicles (orchitis) occur in men if Chlamydia remains untreated. Chlamydia can cause sterility in men and an inflammation of the duct that drains the testis (epididymitis). Chlamydia can also increase the risk of acquiring or transmitting HIV. This is because the immune cells that gather together in the genitals to fight off the Chlamydia infection are the type of cells that HIV infects.

Patients who do not respond to antibiotic treatment or who are treated in later stages of disease are more likely to be infertile than those who receive prompt attention.

Patients with Chlamydia can also develop reactive arthritis, also known as Reiter's syndrome. Reiter's syndrome is a form of arthritis that produces pain, swelling, redness, and heat in the joints. It can also produce inflammation of the urinary tract and eyes. Reiter's syndrome commonly involves the joints of the spine and the joints where the spine attaches to the pelvis. Doctors have recognized that the condition can cause ulcerations of the skin and mouth.

Reiter's syndrome primarily affects young white men between the ages of 20 and 40, although it can occur in older people or children. African-American men rarely get the disease, and women get it only a fifth as often as men.

These patients are treated with antibiotics and anti-inflammatory drugs.

**Follow-Up:**

Take your medication as directed and take steps to prevent reinfection. Treatment fails more often if you don't take your medication as directed, or from reinfection, rather than being infected by a drug-resistant strain of Chlamydia. To make sure that your treatment is effective, take the following four steps:

*Make sure you use up the prescribed medication (if treatment is not given in a single dose).*

*Make sure your partner is being treated at the same time.*

*Do not share your medicine with others.*

Many experts believe that a rescreening at three months after an infection is a good way to detect additional reinfections, especially because most people do not have symptoms and will not necessarily know if they have been reinfected.

Take precautions against future infection. A bout with Chlamydia does not protect you against reinfection with other sexually transmitted bacteria. If you continue to engage in high-risk sexual activity, ask your doctor whether you should get routine screening for the Chlamydia bacteria. Currently, vaccines are not available to prevent Chlamydial infection. Use condoms every time you have sex, get tested often, limit your number of partners, and do not have sex under the influence of drugs or alcohol. Your judgment becomes clouded when you are intoxicated, and you are less likely to remember or to want to take the necessary precautions.