**CHLAMYDIA CERVICITIS/URETHRITIS AND NON-GONOCOCCAL URETHRITIS (NGU)**

**DEFINITION**

Infection of the cervix or urethra with *Chlamydia trachomatis* (CT). Chlamydia infection is a leading cause of acute salpingitis, infection-related infertility, ectopic pregnancy and chronic pelvic pain in women. At least two thirds of women infected with CT have minimal or no symptoms. Chlamydial infection during pregnancy has also been implicated in preterm labor, neonatal conjunctivitis and pneumonia and postpartum endometritis. In men, the infection can ascend to cause epididymitis and perhaps prostatitis. Treatment should be given to all patients with clinical and/or laboratory evidence of infection as well as to all people exposed to the infected patient within 60 days prior to the diagnosis. Screening is recommended on an annual basis for all sexually active women 25 years of age and younger to reduce the risks of PID and transmission to sex partners. Testing of women with risk factors at all ages (e.g. new or multiple sex partners) is recommended. Routine screening of men is not recommended. Non-gonococcal urethritis (NGU) in men is very similar to chlamydia in diagnosis and treatment. In addition to testing for gonorrhea and HIV, when chlamydia is diagnosed in women, consider testing for trichomoniasis and BV.

**SUBJECTIVE**

Must include: Description of recent sexual practices to ascertain areas of possible infection.

May include:

1. No symptoms, sexually active women age 25 and younger.
2. No symptoms: women and men, of all ages with risk factors (multiple or new sexual partner, etc).
3. Abnormal vaginal or urethral discharge.
4. Spotting or post coital bleeding.
5. Lower abdominal pain, dyspareunia, dysuria, urethral pruritus and/or urinary frequency.
6. Sexual partner with a recent history of chlamydia or non-gonococcal urethritis (NGU), epididymitis or prostatitis (male); or chlamydia cervicitis or PID (female).
7. Sexual partner with dysuria or recent urethral discharge.

**OBJECTIVE**

May include:

1. Mucopurulent or purulent discharge from the cervix or the urethra.
2. Mild tenderness on compression of the cervix or urethra.
3. Friable cervix (bleeds easily when touched).
4. Presence of other lesions, such as HSV outbreak.
5. Inflammation or erythema in pharynx.

Must exclude:

1. CVA tenderness. (Refer to ER if pyelonephritis.)
2. In women: PID as evidenced by lower abdominal tenderness, cervical motion tenderness, or adnexal masses or tenderness (see PID protocol).
3. In men: prostatitis or epididymitis as evidenced by T >101°F, chills, prostate tenderness or discharge, or testicular tenderness (refer to ER).

**LABORATORY**

1. Tests available for chlamydia testing include NAATs, cell culture, direct immunofluorescence, EIA, and nucleic acid hybridization tests.
   a. NAATs are the most sensitive tests and can also be used to test cervical or urethral swabs (for men and women), urine specimens (for men and women), provider or patient-collected vaginal swabs, and pap tests using liquid-based tests.  
      1) The urine specimen that is needed is the first portion of the stream following no urination for at least 20-60 minutes. 
   b. When NAATs are not available, other tests may be used as alternative.  
   c. For rectal and oropharyngeal infections, check with laboratory to confirm if it has CLIA-approved and validated NAAT testing available.
2. For men, gram stainings of urethral specimen which shows >5 WBC/HPF without gram-negative intracellular diplococci, can be used to diagnose NGU.
LABORATORY (Continued)

3. For couples practicing rectal intercourse or oral-genital contact, NAATs testing may be helpful to test specimens from those sites too. Check with lab to confirm they have appropriate equipment to process specimens.
4. Positive leukocyte esterase test on first catch (first drops) urine or leukorrhea (>10 WBC per high powered field on microscopic examination of vaginal fluids or first catch drops) suggest infection with either chlamydia or gonorrhea. Absence of leukorrhea almost insures absence of cervicitis.

ASSESSMENT

Uncomplicated chlamydia infection (diagnosed or epidemiologic) or non-gonococcal infection of cervix or urethra. Rectal and pharyngeal infections may also be detected.

PLAN

1. Test for gonorrhea, trichomoniasis, HIV and other appropriate STIs, if not recently tested.
2. Recommended regimens for treatment for non-pregnant women and men, select one of the following:
   a. Azithromycin 1g orally in a single dose. (Contraindicated in patients who are allergic to erythromycin). This is best absorbed on an empty stomach and done under observation in the clinical setting, if possible. It is the preferred therapy especially if any concern about follow-up.
   b. Doxycycline 100 mg orally twice a day for 7 days. (Contraindicated in patients allergic to tetracycline).
   c. Unless the patient has a negative test for gonorrheal infection, also treat for GC on an epidemiologic basis according to Uncomplicated Gonococcal Infection of Cervix, Urethra, Rectum, Pharynx protocol.
   * Contraindicated in pregnant and breastfeeding women.
3. Alternative regimens for treatment for non-pregnant women and men:
   a. Erythromycin base 500 mg orally four times a day for 7 days.
   b. Erythromycin ethylsuccinate 800 mg orally four times a day for 7 days.
   c. LevoFloxacin* 500 mg orally once daily for 7 days.
   d. Ofloxacin* 300 mg orally twice a day for 7 days.
   * Contraindicated in pregnant and breastfeeding women.
4. Recommended regimens for treatment for pregnant women, select one of the following:
   a. Azithromycin 1 g orally in a single dose. (Contraindicated in patients who are allergic to erythromycin.)
5. Alternative regimens for treatment for pregnant women, select one of the following:
   a. Amoxicillin 500 mg orally 3 times a day for 7 days.
   b. Erythromycin base 500 mg orally 4 times a day for 7 days.
   c. Erythromycin base 250 mg orally 4 times a day for 14 days.
   d. Erythromycin ethylsuccinate 800 mg 4 times a day for 7 days.
   e. Erythromycin ethylsuccinate 400 mg orally 4 times a day for 14 days.
6. Follow-up for all patients:
   a. All (men and women) patients should be retested for chlamydia 3 months after treatment to detect any reinfection. If the patient does not return for 3-month visit, retest at the next visit within 12 months.
   b. Prenatal patients should also have test of cure 3 weeks after completion of therapy. The validity of diagnostic testing at less than 3 weeks after completion of treatment has not been established.
7. Encourage the patient to have all sex partner(s) in the 60 days prior to this diagnosis treated for chlamydia and be tested for other STIs as soon as possible. If no partner in last 60 days, then the last partner needs to be treated for chlamydia and tested for other STIs.
   a. In California and in many other states, patient delivered partner therapy (PDPT) is allowed for Chlamydia infections, (except for MSMs) if the patient is confident that any partner(s) will not seek medical care for the infection. In PDPT, the patient can be provided a dose (or doses) of Azithromycin 1g or a prescription for that therapy for the patient to give to each partner who will not seek care otherwise. An information sheet in the partner’s language must accompany each dose of patient delivered medication. Attachment A is a copy of the English version of such an information sheet.
### PLAN (Continued)
8. Report case to Public Health according to local procedures for case contact tracking and treatment.
9. Patient should abstain from intercourse or use condoms with each act of intercourse until 7 days after both partners have completed treatment.

### PATIENT EDUCATION
1. Stress importance of completing medication.
2. Stress necessity of testing/treating sexual partner(s). If possible urge partners to be seen in your clinic or by other clinicians ASAP or provide PDPT if patient is sure partner will not seek care.
3. Advise to abstain from intercourse or to use condoms with every episode of coitus until 7 days after both patient and partner(s) complete single dose treatments or at the end of 7-day therapy.
4. Provide appropriate instructions for medication:
   a. Azithromycin: take medication 1 hour before or 2 hours after eating and avoid antacids until one hour after taking drug.
   b. Doxycycline: avoid dairy products, iron or antacids for one hour after each dose.
5. Inform appropriate patients that erythromycin may frequently be associated with gastrointestinal side effects, such as nausea and vomiting. Less frequently, Azithromycin may produce those side effects. Patients who vomit shortly (within 1 hour) after ingestion of azithromycin need re-dosing.
6. Advise women to seek immediate medical care if fever or chills, severe abdominal pain, or other symptoms of PID develop.
7. Advise men to seek medical care if signs and symptoms of prostatitis or testicular pain develop.
8. Counsel on safer sex practices.
9. Advise non-pregnant patients about consequences of untreated chlamydia infection, such as increased risk of infertility, ectopic pregnancy and chronic pelvic pain and about the need for repeat testing and repeat STI screening.
10. Advise pregnant women that failure to treat increases the risks of preterm labor, postpartum infections for herself and infections in the eyes and lungs of the newborn.
11. Remind nonpregnant patients to return in 3 months for retesting. Advise prenatal patients to return in 3 weeks for test of cure and in 3 months for recurrent infection testing.
12. Counsel patient that most chlamydia infections cause little or no pain. This means that most people, including sex partners, who have chlamydia will not know they are infected, but they need to be treated.

### REFER to MD/ER
1. Patients whose signs or symptoms do not resolve following treatment.
2. Women with any signs or symptoms of PID (e.g. abdominal pain, adnexal pain on palpation, fever or chills).
3. Men with any signs or symptoms of prostatitis or epididymitis.

### REFERENCES
8. Manavi K, Hettiarachchi N, Hodson J. Comparison of doxycycline with azithromycin in treatment
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INFORMATION SHEET TO ACCOMPANY PATIENT-DELIVERED MEDICATION FOR CHLAMYDIA

Your sex partner has been treated for chlamydia. Since you may also have chlamydia, your partner has been given either an extra dose of antibiotic medicine for you or a prescription for that medication. By taking this medicine, you will cure your own infection as well as avoid reinfecting your partner. Most people with chlamydia do not know they have it, since they have no symptoms. In men, chlamydia can cause urethritis (an infection of the area through which urine passes) or epididymitis (an infection in the testicles where the sperm are stored). In women, chlamydia infects the cervix (part of the uterus). If untreated, it can lead to serious pelvic infections and can make women or men sterile.

Because you may have chlamydia, we want to be sure that you get properly treated. The best way to protect your health is to see your doctor or go to your local STI clinic for a complete examination. You can find STI clinics by calling your local health department or looking in the phone book. STI treatment is usually free and confidential. If you are not able to go to your doctor or the STI clinic for an examination, you should take the medicine your sex partner has been given for you, unless you have one of the conditions listed below. This medication is an antibiotic called Azithromycin. This is a very good treatment for chlamydia. If you choose to take this medication, here are some things you should know.

**THE DO NOTS**

Do NOT take this medication if you are a woman and are having lower belly (pelvic) pain, vomiting, or fever. If you are a woman with these problems, go to your doctor or an ER as soon as possible. You may have a more serious problem called pelvic inflammatory disease, which needs stronger antibiotics.

Do NOT take this medication if you are a man with pain in your testicles. Go to your doctor or an ER right away. You may have a more severe infection called epididymitis, which needs stronger antibiotics.

Do NOT take this medication if you are allergic to Azithromycin (Zithromax), Erythromycin, or Clarithromycin (Biaxin). Serious allergic reactions are marked by difficulty breathing, closing of your throat; swelling of your lips, tongue, or face; or hives. Skin rash sometimes occurs as a less serious reaction. Upset stomach and diarrhea are not indicative of an allergic reaction and are well known side-effects.

Do NOT take this medication if you have kidney failure, heart disease, or any other serious health problems. If you have any serious health problems, you should consult your doctor before taking any medicine, including this one.

Do NOT share this medication with anyone else.

Do NOT take this medication if you are taking other medicines. Call your doctor first to see what treatment you need to use.

Do NOT have sex until seven days after taking this medicine. If you do have sex in the next seven days, use a condom before any genital or oral-genital contact every time. Although you take the antibiotics all today, your infection will not be cleared for seven days. If you have unprotected sex within the seven days after taking this antibiotic, you could still pass the infection to your sex partners.

Do NOT take antacids (such as Rolaids, Tums, Maalox, etc.) until one hour after taking this medicine.

**THE DOS**

DO take this medicine at least two hours after eating. Avoid eating for at least 1 hour after taking the medicine.

DO see your doctor if you have any serious health problems before taking this medicine.

DO take azithromycin if you are pregnant, but you should also call your doctor right away and tell them that you are being treated for chlamydia.

**SIDE EFFECTS:**

Some people who take this medication experience a slightly upset stomach or have a little diarrhea afterwards. Others may develop unusual dizziness, fatigue, or headache; a vaginal yeast infection; a rash; or increased sensitivity to sunlight. These side effects won’t last long. If you experience any other side effects or an allergic reaction, call you healthcare provider immediately.