



California Guidelines for STD Screening and Treatment in Pregnancy



CALIFORNIA
STD/HIV PREVENTION
TRAINING CENTER

These guidelines were developed by the California Department of Public Health (CDPH) Sexually Transmitted Diseases (STD) Control Branch and the California STD/HIV Prevention Training Center

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DISCLAIMER FOR PUBLIC HEALTH CLINICAL GUIDELINES

These guidelines are intended to be used as an educational aid to help clinicians make informed decisions about patient care. The ultimate judgment regarding clinical management should be made by the health care provider in consultation with their patient, in light of clinical data presented by the patient and the diagnostic and treatment options available. Further, these guidelines are not intended to be regulatory and not intended to be used as the basis for any disciplinary action against the health care provider.

Sexually transmitted diseases (STDs) are common among women of childbearing age and may be asymptomatic. The goals of STD screening during pregnancy are: 1) early detection and treatment of infection; 2) prevention of maternal complications; and 3) prevention of vertical transmission and neonatal disease. This document is intended to provide an overview of STD screening and treatment guidelines and does not address issues regarding diagnostic work-up, STD counseling, or partner management. Additionally, treatment of HIV, including prophylaxis for HIV-positive pregnant women, hepatitis B, and hepatitis C, is beyond the scope of this document.

STD Screening in Pregnancy

The Centers for Disease Control and Prevention (CDC) 2010 STD Treatment Guidelines recommend screening pregnant women for STDs. The CDC screening recommendations are incorporated into the recommendations below. Note that these are screening recommendations for asymptomatic pregnant women. Women presenting with signs or symptoms of STDs at any time during pregnancy should be examined, tested, and treated if an STD is suspected or confirmed. See Table 1 for summary screening recommendations.

Chlamydia

Screen ALL PREGNANT WOMEN at the first prenatal visit.

- Re-test in the third trimester for at-risk women (ages 25 years or younger, new or multiple sex partners, tested positive earlier in pregnancy).

Note: Nucleic Acid Amplification Tests (NAATs) are the most sensitive testing technology to detect chlamydial infection and are the preferred test technology for screening. NAATs for chlamydia using urine or vaginal swabs have the advantage of being non-invasive and can be obtained when a pelvic exam is not being done or when there is a risk to the pregnancy in taking cervical specimens. Vaginal swabs are the preferred specimen type as they are at least as sensitive as cervical swabs and are more sensitive than urine for the detection of chlamydia.

Gonorrhea

- Screen PREGNANT WOMEN AT RISK at the first prenatal visit. At-risk women include those ages 25 years or younger and those with a history of gonorrhea in the prior two years, more than one sex partner in past year, partner with other partners, commercial sex, drug use, or living in an area with high gonorrhea prevalence (certain geographic regions). African American women are also at higher risk for gonorrhea.
- Re-test in third trimester for women at continued risk or if tested positive earlier in pregnancy.

Note: NAATs are the most sensitive testing technology to detect gonorrheal infection and are the preferred test technology for screening. NAATs for gonorrhea using urine or vaginal swabs have the advantage of being non-invasive and can be obtained when a pelvic exam is not being done or when there is a risk to the pregnancy in taking cervical specimens. Vaginal swabs are the preferred specimen

type as they are at least as sensitive as cervical swabs and are more sensitive than urine for the detection of gonorrhea.

Syphilis

- Screen ALL PREGNANT WOMEN at first prenatal visit with a non-treponemal test (Venereal Disease Research Laboratory (VDRL) or rapid plasma regain (RPR)), and if positive, confirm with a treponemal test (*Treponema pallidum* particle agglutination (TP-PA) preferred over Fluorescent Treponemal Antibody-Absorption (FTA-ABS)).
- Re-test at 28 to 32 weeks and at delivery for women living in areas with high syphilis morbidity. Contact your local health department to find out about areas with high syphilis morbidity where the risk for congenital syphilis is high.
- Stat RPR should be performed at delivery for women with no prenatal care.
- No infant or mother should leave the hospital without having the maternal syphilis status documented at least once either during pregnancy or at delivery.
- Any woman who delivers a stillborn after 20 weeks' gestation should be tested for syphilis.
- If a treponemal EIA (enzyme immunoassay) or CIA (chemiluminescence immunoassay) test is used for syphilis screening, all positive EIA/CIA tests should be reflexed to a non-treponemal test (RPR or VDRL). If the non-treponemal test is negative (e.g., EIA positive/RPR negative), then the results are discrepant and a second treponemal test (TP-PA preferred) should be performed, preferably on the same specimen.
 - If the second treponemal test is positive (e.g., EIA positive/RPR negative/TP-PA positive), then a diagnosis of syphilis (past or present) is confirmed. For patients who have been treated for syphilis in the past and who do not have ongoing risk, no further treatment is necessary. Patients with no prior history of treatment should be staged and treated with a recommended antibiotic regimen.
 - If the second treponemal test is negative (EIA positive/RPR negative/TP-PA negative), then the positive EIA most likely represents a false positive test result. If the woman is at high risk for syphilis, repeat serologic testing in three to four weeks. If both the RPR and TP-PA remain negative, then no further treatment is necessary.

Note: California Health and Safety Code 120675-120715 requires that a syphilis serology be done at the first prenatal visit.

Trichomoniasis

Screening for trichomoniasis is not recommended in asymptomatic pregnant women. Trichomoniasis is associated with adverse pregnancy outcomes, however current evidence does not demonstrate that screening and treating asymptomatic pregnant women reduces perinatal morbidity.

- Women with symptoms should be evaluated and treated appropriately.

Bacterial Vaginosis

Screening for bacterial vaginosis is not recommended in asymptomatic pregnant women. There is insufficient evidence to support routine screening in pregnant

women, including those at high risk for preterm labor. Bacterial vaginosis is associated with adverse pregnancy outcomes; however, studies evaluating screening and treating women at high risk for preterm labor have not demonstrated consistent benefit.

- Women with symptoms should be evaluated and treated appropriately.

HIV

- Screen ALL PREGNANT WOMEN as early in the pregnancy as possible. HIV information and testing should be offered to all pregnant women.
- Re-test in the third trimester in high risk women (injection drug use, new STD diagnosis in pregnancy, women with multiple sex partners, living in areas with high HIV prevalence or HIV-infected partners).
- Rapid HIV testing for women in labor is recommended if HIV status is undocumented. If rapid test is positive, antiretroviral prophylaxis is recommended prior to confirmatory test results.

Note: Consistent with national screening recommendations, California law requires that all pregnant women be offered an HIV test (Health and Safety Code 125085). Furthermore, there are specific requirements (Health and Safety Code 125090) on what information needs to be provided to the woman. Medical providers are required to inform a pregnant woman about their intent to perform HIV testing, with a discussion of the test's purpose, risks, benefits, and treatment options if the woman is HIV positive, information on perinatal transmission and treatment to reduce risk of perinatal transmission. The woman should be informed that she can decline testing, and documentation of refusal of testing should be included in the woman's medical record.

Hepatitis B

- Screen ALL PREGNANT WOMEN in the first trimester with hepatitis B surface antigen (HBsAg). Screen in pregnancy even if previously vaccinated or tested negative.
- Re-test at time of admission to hospital for delivery in unscreened women and high risk women. High risk is defined as more than one sex partner in the prior six months, new STD diagnosis in pregnancy, recent or current injection drug use, or HBsAg-positive partner.

Note: California law requires that all pregnant women be tested for HBsAg (Health and Safety Code 125085). Hepatitis B vaccine is safe in pregnancy. Women who are at risk for hepatitis B should be vaccinated. HBsAg serologic testing should be done prior to administering the hepatitis B vaccine as transient positive HBsAg tests can occur post vaccination.

Hepatitis C

- Screen at the first prenatal visit in HIGH RISK WOMEN (history of injection drug use, history of blood transfusion, or organ transplantation before 1992).

Genital Herpes

- Serologic screening for herpes simplex virus (HSV) types 1 or 2 is not recommended in asymptomatic pregnant women. The evidence is insufficient to support routine HSV serology screening.
- Consider type-specific HSV serology testing in patients whose partner has genital herpes, who have recurrent genital symptoms or atypical symptoms with negative HSV cultures, or who have a clinical diagnosis of genital herpes without laboratory confirmation.
- Although type-specific HSV-2 serology screening is recommended for HIV-infected patients on entry into care, there is insufficient evidence and lack of consensus to support routine screening of HIV-infected women in pregnancy. Screening should be considered for those not screened on entry into HIV care or those at risk whose current status is unknown.
- Third trimester serial cultures for HSV are not recommended in asymptomatic women with a history of HSV.
- All pregnant women should be examined for evidence of genital herpes at the time of delivery.

Human Papillomavirus (HPV) and Associated Diseases

- Guidelines for cervical cancer screening for pregnant women do not differ from those for non-pregnant women. Refer to national cervical cancer screening guidelines for current recommendations on the frequency.
- Routine HPV screening in pregnancy (apart from cotesting and management of suspected or confirmed cervical dysplasia) is not recommended.
- Examination to assess for genital warts can be done during prenatal physical examination.

Note: the HPV vaccine is not recommended in pregnancy. If the series is started prior to pregnancy, it should be discontinued for the duration of the pregnancy. Any exposure to vaccine during pregnancy should be reported to the appropriate vaccine pregnancy registry: 800-986-8999 (Gardasil-Merck) or 888-452-9622 (Cervarix-GSK vaccine).

Table 1: Summary STD Screening Recommendations in Pregnancy

Time of Screening	Tests for All Pregnant Women (unless specific risk group noted)
<p>First prenatal visit</p>	<ul style="list-style-type: none"> • Chlamydia • Gonorrhea for women at risk: age 25 years or younger or women with a history of gonorrhea in prior 2 years, more than one sex partner in past year, partner with other partners, commercial sex, drug use, or living in an area with high gonorrhea prevalence (certain geographic regions); African American women are also at higher risk for gonorrhea • Syphilis (RPR or VDRL). Always confirm a positive RPR or VDRL with treponemal test (TP-PA preferred over FTA-ABS) • HIV • Hepatitis B surface antigen (HBsAg) • Hepatitis C if high risk: history of injection drug use, history of blood transfusion or organ transplantation before 1992 • Consider type-specific HSV serology for women at risk: exposure to partner with genital herpes, recurrent genital symptoms or atypical symptoms with negative HSV cultures, or a clinical diagnosis of genital herpes without laboratory confirmation and in HIV infected. • Pap test if indicated by national guidelines
<p>Third trimester</p>	<p>Early third trimester (28-32 weeks)</p> <ul style="list-style-type: none"> • Syphilis for women living in areas with high syphilis morbidity <p>Anytime during third trimester</p> <ul style="list-style-type: none"> • Chlamydia for women at risk: age 25 years or younger, new or multiple partners, or tested positive earlier in pregnancy • Gonorrhea if continued risk or tested positive earlier in pregnancy • HIV if high risk: injection drug use, new STD diagnosis in pregnancy, multiple partners, living in area with high HIV prevalence, or HIV-infected partner
<p>During labor & delivery</p>	<ul style="list-style-type: none"> • Syphilis if woman lives in area with high syphilis morbidity • Syphilis stat RPR if no prior prenatal care • HIV rapid testing if undocumented HIV status • HBsAg on admission to delivery if no prior screening or if high risk: multiple partners prior 6 months, new STD diagnosis in pregnancy, recent or current injection drug use, or HBsAg-positive partner

STD Treatment in Pregnancy

The following recommendations are based on the CDC 2010 STD Treatment Guidelines. Recommendations for treatment of HIV, including prophylaxis for HIV-positive pregnant women, hepatitis B and hepatitis C, are not covered in this document. See Table 2 for a summary of recommended treatment regimens.

Chlamydia

- Azithromycin or amoxicillin are the two recommended regimens. Every effort to use a recommended regimen should be made.
- Test of cure (preferably with NAAT) should be done three to four weeks after completing therapy.

Gonorrhea

- Ceftriaxone 250 mg by intramuscular injection plus azithromycin 1 g orally in a single dose is the preferred antimicrobial regimen for uncomplicated gonococcal infections of the cervix, urethra, rectum, and pharynx.
- Dual antibiotic therapy with ceftriaxone plus azithromycin 1 g is recommended for all suspected and confirmed cases of gonorrhea regardless of chlamydia test result.
- Though cefixime 400 mg orally in a single dose plus azithromycin 1 g orally in a single dose is an oral treatment option for gonorrhea, cefixime does not provide as high nor as sustained a bactericidal level as that provided by ceftriaxone 250 mg. Every effort should be made to use ceftriaxone 250 mg plus azithromycin 1g as the first-line treatment regimen for gonorrhea.
- For patients with cephalosporin allergy or severe penicillin allergy (e.g., anaphylaxis, Stevens Johnson syndrome, toxic epidermal necrolysis), treat with azithromycin 2 g orally in a single dose. However, because of gastrointestinal intolerance and concerns about emerging resistance to azithromycin, it should be used with caution.
- Test of cure (preferably with NAAT) should be done three to four weeks after completing therapy.
- For current guidelines on suspected treatment failure, please visit www.std.ca.gov ("STD Guidelines") or call the California STD Control Branch warm line: 510-620-3400.

Cervicitis

- Azithromycin is the drug of choice for presumptive treatment.
- If local prevalence of gonorrhea is greater than five percent, co-treat for gonorrhea infection.
- Assess for bacterial vaginosis and trichomoniasis and co-treat if infection detected.

Pelvic Inflammatory Disease

- Parenteral therapy in an inpatient setting is necessary because of risk of preterm delivery and maternal morbidity.
- Clindamycin plus gentamicin is the recommended regimen.

Syphilis

- Benzathine penicillin G (generic name) is the only recommended treatment for primary, secondary, and latent syphilis in pregnancy and is available in only one long-acting formulation, Bicillin® L-A (the trade name), which contains only benzathine penicillin G.
- Other combination products, such as Bicillin® C-R, contain both long- and short-acting penicillins and are not effective for treating syphilis.
- Pregnant women allergic to penicillin should be treated with penicillin after desensitization.
- Some specialists recommend a second dose of benzathine penicillin G 2.4 million units intramuscular 1 week after the initial dose for pregnant women with primary, secondary, or early latent syphilis
- Consider treatment with 2.4 million units of benzathine penicillin G once per week for up to 3 weeks after completion of neurosyphilis treatment for patients with late syphilis (late latent syphilis and latent syphilis of unknown duration) and neurosyphilis.

Chancroid

- Azithromycin, ceftriaxone, or erythromycin base are recommended treatment regimens.

Lymphogranuloma venereum

- A 3-week course of erythromycin base or azithromycin is recommended.

Trichomoniasis

- Metronidazole (pregnancy category B) is the only recommended regimen.
- Some experts defer treatment in asymptomatic women until after 37 weeks gestation.
- For suspected drug-resistant trichomoniasis, evaluate for potential reinfection, and use increased dosage of metronidazole or tinidazole (See 2010 CDC Guidelines, “Trichomonas Follow-up”, for specific treatment regimens: <http://www.cdc.gov/std>). For laboratory and clinical consultations and to evaluate for metronidazole-resistant *T. vaginalis* contact CDC at 404-718-4141.

Bacterial Vaginosis (BV)

- All pregnant women with symptomatic bacterial vaginosis should be treated.
- Metronidazole and clindamycin are the recommended regimens.

Genital Herpes

- The safety of acyclovir in pregnancy has not been established; however, available data do not show an increased risk of birth defects in women treated with acyclovir in the first trimester.
- Acyclovir is the recommended regimen for women with first clinical episodes or severe recurrent herpes, and intravenous acyclovir should be used in severe infection.
- Symptomatic HSV identified late in pregnancy or at the time of delivery should be managed in consultation with an infectious disease specialist.
- Suppressive acyclovir treatment late in pregnancy (≥ 36 weeks to term) reduces the frequency of cesarean section among women who have recurrent genital herpes by diminishing the frequency of recurrences at term.

Genital Warts

- Cryotherapy, trichloroacetic acid (TCA), bichloroacetic acid (BCA) or surgical removal are recommended treatments in pregnancy.
- Cryotherapy can be used on vaginal, vulvar, and anal mucosal warts.
- TCA or BCA can be used on vaginal, vulvar, and anal mucosal warts.
- Surgical removal is another option for vaginal, vulvar, and anal mucosal warts.
- If surgical removal is performed during pregnancy, wart resolution may be incomplete or poor until post-partum period.
- Cervical warts should be managed by a specialist.

Table 2: Summary Recommended STD Treatment in Pregnancy*

DISEASE	RECOMMENDED REGIMENS
CHLAMYDIA	<ul style="list-style-type: none"> • Azithromycin 1 g orally once <i>or</i> • Amoxicillin 500 mg orally three times daily for 7 days
GONORRHEA	<p>Dual therapy with:</p> <ul style="list-style-type: none"> • Ceftriaxone 250 mg intramuscular once <p style="text-align: center;">PLUS</p> <ul style="list-style-type: none"> • Azithromycin 1 g orally once <p>or, if not an option:</p> <ul style="list-style-type: none"> • Cefixime 400 mg orally once <p style="text-align: center;">PLUS</p> <ul style="list-style-type: none"> • Azithromycin 1 g orally once

TRICHOMONIASIS	<ul style="list-style-type: none"> • Metronidazole 2 g orally once
BACTERIAL VAGINOSIS	<ul style="list-style-type: none"> • Metronidazole 500 mg orally twice daily for 7 days <i>or</i> • Metronidazole 250 mg orally three times daily for 7 days <i>or</i> • Clindamycin 300 mg orally twice daily for 7 days
GENITAL HERPES	
First Clinical Episode	<ul style="list-style-type: none"> • Acyclovir 400 mg orally three times daily for 7-10 days <i>or</i> • Acyclovir 200 mg orally 5/day for 7-10 days
Episodic Therapy for Recurrent Episode	<ul style="list-style-type: none"> • Acyclovir 400 mg orally three times daily for 5 days <i>or</i> • Acyclovir 800 mg orally twice daily for 5 days <i>or</i> • Acyclovir 800 mg orally three times daily for 2 days
Suppressive Therapy	<ul style="list-style-type: none"> • Acyclovir 400 mg orally twice daily
GENITAL WARTS	
External Genital, Perianal or Mucosal Genital Warts	<ul style="list-style-type: none"> • Cryotherapy applied once per 1-2 weeks <i>or</i> • Trichloroacetic acid (TCA) applied once per 1-2 weeks <i>or</i> • Bichloroacetic acid (BCA) 80%-90% applied once per 1-2 weeks <i>or</i> • Surgical removal

* See CDC 2010 STD Treatment Guidelines (www.cdc.gov/std/treatment) for alternative treatment regimens.

STD Resources

- Centers for Disease Control and Prevention 2010 STD Treatment Guidelines (<http://www.cdc.gov/std/treatment>).
- The California Department of Public Health, STD Control Branch website (<http://www.std.ca.gov>) has many STD resources including clinical guidelines, treatment guidelines, surveillance reports, and links to local STD data.
- The California STD/HIV Prevention Training Center (CA PTC) website (<http://www.stdhivtraining.org/>) has a variety of STD resources including information about STD/HIV prevention training courses, resources to assist providers in risk assessment, diagnosis, and management of STDs, as well as STD fact sheets for patients.