

STD TREATMENT GUIDELINES TABLE FOR ADULTS & ADOLESCENTS 2015

These guidelines reflect the recommendations of the 2015 CDC STD Treatment Guidelines and serve as a quick reference for treatment of STIs encountered in an outpatient setting. This is not an exhaustive list of effective treatments, so refer to the complete document from the CDC (www.cdc.gov/std/treatment) for more information or call the STD Program listed below. These guidelines are for clinical guidance and not to be construed as standards or inflexible rules. Clinical and epidemiological services are available through your STD Program, and staff is available to assist healthcare providers with confidential notification of sexual partners of patients infected with HIV and other STIs. For assistance, please contact:

Center for STI Prevention, Maryland Department of Health and Mental Hygiene 410-767-6690, <http://phpa.dhmh.maryland.gov/OIDPCS/CSTIP>

DISEASE	RECOMMENDED REGIMENS	DOSE/ROUTE	ALTERNATIVE REGIMENS: To be used if medical contraindication to recommended regimen.
CHLAMYDIA			
Uncomplicated Genital/Rectal/Pharyngeal Infections ¹	<ul style="list-style-type: none"> Azithromycin <u>or</u> Doxycycline² 	1 g po 100 mg po bid x 7 d	<ul style="list-style-type: none"> Erythromycin base 500 mg po qid x 7 d <u>or</u> Erythromycin ethylsuccinate 800 mg po qid x 7 d <u>or</u> Levofloxacin² 500 mg po qd x 7 d <u>or</u> Ofloxacin² 300 mg po bid x 7 d
Pregnant Women ³	<ul style="list-style-type: none"> Azithromycin 	1 g po	<ul style="list-style-type: none"> Erythromycin base 500 mg po qid x 7 d <u>or</u> Erythromycin base 250 mg po qid x 14 d <u>or</u> Erythromycin ethylsuccinate 800 mg po qid x 7 d <u>or</u> Erythromycin ethylsuccinate 400 mg po qid x 14 d <u>or</u> Amoxicillin⁴ 500 mg po tid x 7d for pregnant women
GONORRHEA: Ceftriaxone is the preferred treatment for adults and adolescents with uncomplicated gonorrhea. Dual therapy with ceftriaxone 250 mg IM <u>Plus</u> azithromycin 1 g po is recommended for all patients with gonorrhea regardless of chlamydia test results.⁵			
Uncomplicated Genital/Rectal Infections ¹	Dual therapy with <ul style="list-style-type: none"> Ceftriaxone - PLUS - Azithromycin 	250 mg IM x 1 1 g po in a single dose	<ul style="list-style-type: none"> Cefixime⁶ 400 mg po in a single dose - PLUS - Azithromycin 1 g po in a single dose OR, If allergic to cephalosporins or severe penicillin allergy Gemifloxacin 320 mg po in a single dose - PLUS - Azithromycin 2 g po in a single dose <u>or</u> Gentamicin 240 mg IM in a single dose - PLUS - Azithromycin 2 g⁶ po in a single dose
Note: Use of azithromycin as the second antimicrobial is preferred to doxycycline because of the convenience and compliance advantages of single-dose therapy and the substantially higher prevalence of gonococcal resistance to tetracycline than to azithromycin among Gonococcal Isolate Surveillance Project (GISP) isolates, particularly in strains with elevated cefixime MICs			
Pharyngeal Infections	Dual therapy with <ul style="list-style-type: none"> Ceftriaxone - PLUS - Azithromycin 	250 mg IM x 1 1 g po in a single dose	A test-of-cure 14 d after treatment is recommended for all patients receiving alternative therapy for pharyngeal GC <ul style="list-style-type: none"> Gemifloxacin 320 mg po in a single dose - PLUS - Azithromycin 2 g po in a single dose <u>or</u> Gentamicin 240 mg IM - PLUS - Azithromycin 2 g⁶ po in a single dose
Pregnant Women ³	Dual therapy with <ul style="list-style-type: none"> Ceftriaxone - PLUS - Azithromycin 	250 mg IM x 1 1 g po in a single dose	<ul style="list-style-type: none"> Cefixime⁶ 400 mg po in a single dose - PLUS - Azithromycin 1 g po in a single dose OR, If allergic to cephalosporins or severe penicillin allergy Consult Infectious Diseases specialist
PELVIC INFLAMMATORY DISEASE ^{5, 8, 9}	Parenteral¹⁰ <ul style="list-style-type: none"> Either Cefotetan <u>or</u> Cefoxitin - PLUS - Doxycycline² or <ul style="list-style-type: none"> Clindamycin - PLUS - Gentamicin IM/Oral <ul style="list-style-type: none"> Either Ceftriaxone <u>or</u> Cefoxitin with Probenecid - PLUS - Doxycycline² - PLUS - Metronidazole if BV is present or cannot be ruled out 	2 g IV q 12 hrs 2 g IV q 6 hrs 100 mg po or IV q 12 hrs 900 mg IV q 8 hrs 2 mg/kg IV or IM followed by 1.5 mg/kg IV or IM q 8 hrs 250 mg IM 2 g IM, 1 g po 100 mg po bid x 14 d 500 mg po bid x 14 d	Parenteral¹⁰ <ul style="list-style-type: none"> Ampicillin/Sulbactam 3 g IV q 6 hrs - PLUS - Doxycycline² 100 mg po or IV q 12 hrs IM/Oral¹¹ <ul style="list-style-type: none"> Azithromycin 500 mg IV for 1-2 doses, followed by 250 mg po daily for 12-14 days, <u>or</u> Ceftriaxone 250 mg IM in a single dose and Azithromycin 1 g po once a week for 2 weeks - PLUS - Metronidazole 500 mg po bid x 14 d if BV is present or cannot be ruled out
CERVICITIS ^{5, 8, 12}	<ul style="list-style-type: none"> Azithromycin <u>or</u> Doxycycline² - PLUS - Metronidazole if BV or trichomoniasis is present 	1 g po 100 mg po bid x 7 d 500 mg po bid x 7 d	
NONGONOCOCCAL URETHRITIS ⁸	<ul style="list-style-type: none"> Azithromycin <u>or</u> Doxycycline 	1 g po 100 mg po bid x 7 d	<ul style="list-style-type: none"> Erythromycin base 500 mg po qid x 7 d <u>or</u> Erythromycin ethylsuccinate 800 mg po qid x 7 d <u>or</u> Levofloxacin 500 mg po qd x 7 d <u>or</u> Ofloxacin 300 mg po bid x 7 d
EPIDIDYMITIS ^{5, 8}	Likely due to Gonorrhea or Chlamydia <ul style="list-style-type: none"> Ceftriaxone - PLUS - Doxycycline Likely due to enteric organisms <ul style="list-style-type: none"> Levofloxacin¹³ <u>or</u> Ofloxacin¹³ 	250 mg IM 100 mg po bid x 10 d 500 mg po qd x 10 d 300 mg po bid x 10 d	
CHANCROID	<ul style="list-style-type: none"> Azithromycin <u>or</u> Ceftriaxone <u>or</u> Ciprofloxacin² <u>or</u> Erythromycin base 	1 g po 250 mg IM 500 mg po bid x 3 d 500 mg po tid x 7 d	
LYMPHOGRANULOMA VENEREUM	<ul style="list-style-type: none"> Doxycycline² 	100 mg po bid x 21 d	<ul style="list-style-type: none"> Erythromycin base 500 mg po qid x 21 d <u>or</u> Azithromycin 1 g po q week x 3 weeks
TRICHOMONIASIS ^{14,15}			
Men and women (including pregnant women)	<ul style="list-style-type: none"> Metronidazole <u>or</u> Tinidazole¹⁶ 	2 g po 2 g po	<ul style="list-style-type: none"> Metronidazole 500 mg po bid x 7 d

- Annual screening is recommended for women < 25 years. Nucleic acid amplification tests (NAATs) are recommended. All patients should be re-tested 3 months after treatment for chlamydia and/or gonorrhea.
- Contraindicated for pregnant and nursing women.
- Every effort to use a recommended regimen should be made. Test-of-cure follow-up (preferably by NAATs) 3-4 weeks after completion of therapy is recommended in pregnancy.
- Amoxicillin can be considered as an alternate therapy for chlamydia in pregnant women.
- If GC has been documented and treatment failure is suspected because the patient has been treated with a recommended regimen for GC and symptoms have not resolved, then perform a test-of-cure using culture and antibiotic susceptibility testing and report to the local health department.
- Oral cephalosporins give lower and less-sustained bacteriocidal levels than ceftriaxone 250 mg and have limited efficacy for treating pharyngeal GC. Therefore, ceftriaxone is the preferred medication.
- For patients with cephalosporin allergy, or severe penicillin allergy, (e.g., anaphylaxis, Stevens Johnson Syndrome, and toxic epidermal necrolysis), azithromycin is an option. However, because of GI intolerance and concerns regarding emerging resistance, it should be used with caution. Azithromycin monotherapy is no longer recommended because of concerns over the ease with which *N. gonorrhoeae* can develop resistance to macrolides and because several studies have documented azithromycin treatment failures.
- Testing for specific pathogens, notably chlamydia and gonorrhea, is recommended. Specific diagnoses may improve compliance, partner management, and compliance with state reporting laws.
- Evaluate for bacterial vaginosis. If present or cannot be ruled out, also use metronidazole.
- Discontinue 24 hours after patient improves clinically and continue with oral therapy for a total of 14 days.
- If allergy precludes the use of cephalosporin therapy or if the community prevalence and individual risk for gonorrhea are low, and follow-up is likely, use of fluoroquinolones (levofloxacin 500 mg orally once daily, ofloxacin 400 mg twice daily for 14 days, or moxifloxacin 400 mg orally once daily) with metronidazole (500 mg orally twice daily for 14 days) can be considered.
- If local prevalence of gonorrhea is greater than 5%, treat empirically for gonorrhea infection.
- If gonorrhea is documented, change to a medication regimen that does not include a fluoroquinolone.
- For suspected drug-resistant trichomoniasis, rule out re-infection; see 2015 CDC Guidelines (<http://www.cdc.gov/std/tg2015/trichomoniasis.htm>) for trichomonas follow-up, treatment options and how to evaluate for metronidazole-resistant *T. vaginalis*. Retesting within 3 months of treatment is recommended. For laboratory and clinical consultations, contact CDC at 404-718-4141; <http://www.cdc.gov/std>.
- For HIV-positive women with trichomoniasis, metronidazole 500 mg po bid x 7 d is more effective than metronidazole 2 g orally. HIV-infected pregnant women should be retested at 3 months after treatment.
- Safety in pregnancy has not been established; pregnancy category C.

DISEASE	RECOMMENDED REGIMENS	DOSE/ROUTE	ALTERNATIVE REGIMENS: To be used if medical contraindication to recommended regimen
BACTERIAL VAGINOSIS			
Adults/Adolescents	<ul style="list-style-type: none"> Metronidazole <u>or</u> Metronidazole gel <u>or</u> Clindamycin cream¹⁷ 	500 mg po bid x 7 d 0.75%, one full applicator (5g) intravaginally qd x 5 d 2.0%, one full applicator (5g) intravaginally qhs x 7 d	<ul style="list-style-type: none"> Tinidazole¹⁶ 2 g po qd x 2 d <u>or</u> Tinidazole¹⁶ 1 g po qd x 5 d <u>or</u> Clindamycin 300 mg po bid x 7 d <u>or</u> Clindamycin ovules 100 mg intravaginally qhs x 3 d (Note: no studies support the addition of any available lactobacillus formulations or probiotic as an adjunctive or replacement therapy in women with BV.)
Pregnant Women (symptomatic) ^{16a}	<ul style="list-style-type: none"> Metronidazole <u>or</u> Metronidazole <u>or</u> Clindamycin 	500 mg po bid x 7 d 250 mg po tid x 7 d (compatible with breast feeding due to lower concentration in breast milk) 300 mg po bid x 7 d	
ANOGENITAL WARTS			
External Genital/Perianal Warts	Patient-Applied <ul style="list-style-type: none"> Imiquimod^{16,17} 3.75% cream <u>or</u> Imiquimod^{16,17} 5% cream <u>or</u> Podofilox¹⁶ 0.5% solution or gel <u>or</u> Sinecatechins¹⁶ 15% ointment Provider-Administered <ul style="list-style-type: none"> Cryotherapy <u>or</u> Trichloroacetic acid (TCA) <u>or</u> Bichloroacetic acid (BCA) 80%-90% <u>or</u> Surgical removal 	Topically qhs up to 16 wks Topically qhs, 3 x wk up to 16 wks Topically bid x 3 d followed by 4 d no tx for up to 4 cycles Topically tid, for up to 16 wks Apply once q 1-2 wks Apply once q 1-2 wks Apply once q 1-2 wks	Alternative Regimen <ul style="list-style-type: none"> Podophyllin resin 10-25% in compound tincture of benzoin, applied in <0.5 mL to area < 10 cm², apply then wash off in 1-4 hours <u>or</u> Intra-lesional interferon <u>or</u> Laser surgery <u>or</u> Photodynamic therapy <u>or</u> Topical cidofovir (Note: Provider administered podophyllin treatment requires strict adherence to the recommendations for application.)
Mucosal Genital Warts ¹⁸	<ul style="list-style-type: none"> Cryotherapy <u>or</u> TCA or BCA 80%-90% <u>or</u> Surgical removal 	Vaginal, urethral meatus, and anal Vagina, cervical and anal Vaginal, urethral meatus, and anal	
ANOGENITAL HERPES¹⁹			
First Clinical Episode of Anogenital Herpes	<ul style="list-style-type: none"> Acyclovir <u>or</u> Acyclovir <u>or</u> Famciclovir <u>or</u> Valacyclovir 	400 mg po tid x 7-10 d 200 mg po 5x/day x 7-10 d 250 mg po tid x 7-10 d 1 g po bid x 7-10 d	
Established Infection	<ul style="list-style-type: none"> Acyclovir <u>or</u> Famciclovir¹⁹ <u>or</u> Valacyclovir <u>or</u> Valacyclovir 	400 mg po bid 250 mg po bid 500 mg po qd 1 g po qd	
Suppressive Therapy ^{20,21}			
Episodic Therapy for Recurrent Episodes	<ul style="list-style-type: none"> Acyclovir <u>or</u> Acyclovir <u>or</u> Acyclovir <u>or</u> Famciclovir <u>or</u> Famciclovir <u>or</u> Famciclovir <u>or</u> Valacyclovir <u>or</u> Valacyclovir 	400 mg po tid x 5 d 800 mg po bid x 5 d 800 mg po tid x 2 d 125 mg po bid x 5 d 1000 mg po bid x 1 d 500 mg once, then 250 mg bid x 2 d 500 mg po bid x 3 d 1 g po qd x 5 d	
HIV Co-Infected²¹			
Suppressive Therapy ²⁰	<ul style="list-style-type: none"> Acyclovir <u>or</u> Famciclovir²⁰ <u>or</u> Valacyclovir 	400-800 mg po bid or tid 500 mg po bid 500 mg po bid	
Episodic Therapy for Recurrent Episodes	<ul style="list-style-type: none"> Acyclovir <u>or</u> Famciclovir <u>or</u> Valacyclovir 	400 mg po tid x 5-10 d 500 mg po bid x 5-10 d 1 g po bid x 5-10 d	
HSV in Pregnant women (treatment recommended starting at 36 weeks gestation)			
Recurrent genital herpes	<ul style="list-style-type: none"> Acyclovir <u>or</u> Valacyclovir 	400 mg po tid 500 mg po bid	
SYPHILIS^{22, 23}			
Primary, Secondary, and Early Latent	<ul style="list-style-type: none"> Benzathine penicillin G 	2.4 million units IM	<ul style="list-style-type: none"> Doxycycline²⁴ 100 mg po bid x 14 d <u>or</u> Tetracycline²⁴ 500 mg po qid x 14 d <u>or</u> Ceftriaxone²⁴ 1 g or 2g IM or IV qd x 10-14 d
Late Latent and Latent of Unknown Duration	<ul style="list-style-type: none"> Benzathine penicillin G 	7.2 million units, administered as 3 doses of 2.4 million units IM each, at 1-week intervals	<ul style="list-style-type: none"> Doxycycline²⁴ 100 mg po bid x 28 d <u>or</u> Tetracycline²⁴ 500 mg po qid x 28 d
Neurosyphilis ²⁵	<ul style="list-style-type: none"> Aqueous crystalline penicillin G 	18-24 million units daily, administered as 3-4 million units IV q 4 hrs x 10-14 d	<ul style="list-style-type: none"> Procaine penicillin G, 2.4 million units IM qd x 10-14 d - PLUS - Probenecid 500 mg po qid x 10-14 d <u>or</u> Ceftriaxone²⁴ 2 g IM or IV qd x 10-14 d
Pregnant Women²⁶			
Primary, Secondary, and Early Latent	<ul style="list-style-type: none"> Benzathine penicillin G 	2.4 million units IM	• None
Late Latent and Latent of Unknown Duration	<ul style="list-style-type: none"> Benzathine penicillin G 	7.2 million units, administered as 3 doses of 2.4 million units IM each, at 1-week intervals	• None
Neurosyphilis ²⁵	<ul style="list-style-type: none"> Aqueous crystalline penicillin G 	18-24 million units daily, administered as 3-4 million units IV q 4 hrs x 10-14 d	<ul style="list-style-type: none"> Procaine penicillin G, 2.4 million units IM qd x 10-14 d - PLUS - Probenecid 500 mg po qid x 10-14 d

16. Safety in pregnancy has not been established; pregnancy category C.

16a. Evidence is insufficient to recommend routine screening for BV in asymptomatic pregnant women at high or low risk for preterm delivery to prevent preterm birth.

17. May weaken latex condoms and contraceptive diaphragms.

18. Cervical and intra-anal warts should be managed in consultation with specialist.

19. Counseling about natural history, asymptomatic shedding, and sexual transmission is an essential component of herpes management.

20. The goal of suppressive therapy is to reduce recurrent symptomatic episodes and/or to reduce sexual transmission. Famciclovir appears somewhat less effective for suppression of viral shedding.

21. If HSV lesions persist or recur during antiviral treatment, drug resistance should be suspected. Obtaining a viral isolate for sensitivity testing and consulting with an infectious disease expert is recommended.

22. Benzathine penicillin G (generic name) is the recommended treatment for syphilis not involving the central nervous system 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.

23. Persons with HIV infection should be treated according to the same stage-specific recommendations for primary, secondary, and latent syphilis as used for HIV-negative persons. Available data demonstrate that additional doses of benzathine penicillin G, amoxicillin, or other antibiotics in early syphilis do not result in enhanced efficacy, regardless of HIV status.

24. Alternates should be used only for penicillin-allergic patients because efficacy of these therapies has not been established. Compliance with some of these regimens is difficult, and close follow-up is essential. If compliance or follow-up cannot be ensured, the patient should be desensitized and treated with benzathine penicillin. The possibility of cross-sensitivity between ceftriaxone and penicillin exists, however the risk of penicillin cross-reactivity between third-generation cephalosporins is negligible.

25. Some specialists recommend 2.4 million units of benzathine penicillin G weekly for up to 3 weeks after completion of neurosyphilis treatment.

26. Pregnant women allergic to penicillin should be treated with penicillin after desensitization.