LOS ANGELES COUNTY STD TREATMENT GUIDELINES TABLE FOR ADULTS & ADOLESCENTS 2019

These guidelines reflect updates in the 2015 CDC STD Treatment Guidelines for both HIV-uninfected and HIV-infected adults and adolescents; treatments that differ for HIV-infected populations are designated by a red ribbon. Call the local health department for assistance with confidential notification of sexual partners of patients with syphilis, gonorrhea, chlamydia or HIV infection. For STD clinical management consultation in (LAC) call 213-368-7441 or (CA) 510-620-3400 or submit your question online to the STD Clinical Consultation Network at www.stdccn.org

DISEASE	RECOMMENDED REGIMENS	DOSE/ROUTE	ALTERNATIVE REGIMENS: To be used if medical contraindication to recommended regimen.
CHLAMYDIA (CT)			
Genital/Rectal/Pharyngeal Infections[1]	• Azithromycin **or** • Doxycycline[2]	1 g po 100 mg po bid x 7 d	• Erythromycin base 500 mg po qid x 7 d **or** • Erythromycin ethylsuccinate 800 mg po qid x 7 d **or** • Levofloxacin[2] 500 mg po qd x 7 d **or** • Ofloxacin[2] 300 mg po bid x 7 d **or** • Doxycycline[2] (delayed release) 200 mg po qd x 7 d
Pregnant Women[3]	• Azithromycin	1g po	• Amoxicillin[4] 500 mg po tid x 7 d **or** • Erythromycin base 500 mg po qid x 7 d **or** • Erythromycin base 250 mg po qid x 14 d **or** • Erythromycin ethylsuccinate 800 mg po qid x 7 d **or** • Erythromycin ethylsuccinate 400 mg po qid x 14 d
GONORRHEA (GC): Dual therapy with ceftriaxone 250 mg IM PLUS azithromycin 1 g po is recommended for all patients with gonorrhea regardless of chlamydia test results.[5] Dual therapy should be simultaneous and by directly observed therapy. Azithromycin is preferred second antimicrobial; if allergy to azithromycin, can use doxycycline 100 mg po bid x 7 days.			
Genital/Rectal Infections[1,5]	Dual therapy with • Ceftriaxone PLUS • Azithromycin	250 mg IM 1 g po	Dual therapy with • Cefixime[6] 400 mg po PLUS Azithromycin 1 g po **or** Doxycycline 100 mg po bid x 7 d **Cephalosporin allergy or IgE mediated penicillin allergy** • Gemifloxacin[2] 320 mg po PLUS Azithromycin 2 g po **or** • Gentamicin[2] 240 mg IM PLUS Azithromycin 2 g po
Pharyngeal Infections[5]	Dual therapy with • Ceftriaxone PLUS • Azithromycin	250 mg IM 1 g po	If cephalosporin allergy or IgE mediated penicillin allergy (e.g., anaphylaxis, Stevens-Johnson syndrome, or toxic epidermal necrolysis), limited data exist on alternatives. See footnotes.[7]
Pregnant Women[3,5]	Dual therapy with • Ceftriaxone PLUS • Azithromycin	250 mg IM 1 g po	• Cefixime[6] 400 mg po PLUS • Azithromycin 1g po If cephalosporin allergy or IgE mediated penicillin allergy, consult with specialist, see footnotes.[3]
PELVIC INFLAMMATORY DISEASE[8,9] *(Etiologies: CT, GC, anaerobes, possibly M. genitalium, others)*	Parenteral • Either Cefotetan **or** Cefoxitin **plus** Doxycycline[2] **or** • Clindamycin **plus** Gentamicin IM/Oral • Either Ceftriaxone **or** Cefoxitin with Probenecid **plus** Doxycycline[2] **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	Parenteral • Ampicillin/Sulbactam 3 g IV q 6 hrs **plus** Doxycycline[2] 100 mg po or IV q 12 hrs Oral[10] • Levofloxacin[2] 500 mg po qd x 14 d **or** • Ofloxacin[2] 400 mg po bid x 14 d **or** • Moxifloxacin[2] 400 mg po qd x 14 d **or** • Ceftriaxone 250 mg IM in a single dose **plus** 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[8,11,12] *(Etiologies: CT, GC, T. vaginalis, HSV, possibly M. genitalium)*	• Azithromycin **or** • Doxycycline[2]	1 g po 100 mg po bid x 7 d	
NONGONOCOCCAL URETHRITIS (NGU)[8,12]	• Azithromycin **or** • Doxycycline	1 g po 100 mg po bid x 7 d	• Erythromycin base 500 mg po qid x 7 d **or** • Erythromycin ethylsuccinate 800 mg po qid x 7 d **or** • Levofloxacin 500 mg po qd x 7 d **or** • Ofloxacin 300 mg po bid x 7 d
RECURRENT/PERSISTENT NGU (*Etiolgies: M. genitalium T.vaginalis, other bacteria)*[12]	• Moxifloxacin **plus** • Metronidazole[12] or • Tinidazole[12]	400 mg po qd x 7d 2 g po 2 g po	
EPIDIDYMITIS[8]	Likely due to GC or CT • Ceftriaxone **plus** Doxycycline Likely due to GC, CT or enteric organisms (history of anal insertive sex) • Ceftriaxone **plus** • Levofloxacin **or** • Ofloxacin Likely due to enteric organisms • Levofloxacin[13] **or** • Ofloxacin[13]	250 mg IM 100 mg po bid x 10 d 250 mg IM 500 mg po qd x 10 d 300 mg po bid x 10 d 500 mg po qd x 10 d 300 mg po bid x 10 d	
LYMPHOGRANULOMA VENEREUM	• Doxycycline[2]	100 mg po bid x 21 d	• Erythromycin base 500 mg po qid x 21 d
TRICHOMONIASIS[14,15]			
Adults/Adolescents	• Metronidazole **or** • Tinidazole[16]	2 g po 2 g po	• Metronidazole 500 mg po bid x 7 d
Pregnant Women	• Metronidazole	2 g po	
HIV-infected Women	• Metronidazole	500 mg po bid x 7 d	

[1] Annual screening is recommended for women aged < 25 years. Nucleic acid amplification tests (NAATs) are recommended. All patients should be re-tested 3 months after treatment for CT or GC.

[2] Contraindicated for pregnant and nursing women.

[3] Every effort should be made to use a recommended regimen. Test-of-cure follow-up (preferably by NAAT) 3-4 weeks after completion of therapy is recommended in pregnancy. In case of allergy to both alternative and recommended regimens, consult with LAC Division of HIV & STD Programs 213-368-7441, CA STD Control Branch at -510-620-3400, or the STD Clinical Consultation Network at www.stdccn.org

[4] Amoxicillin is now an alternative regimen due to chlamydial persistence in animal and in vitro studies.

[5] If the patient has been treated with a recommended regimen for GC, reinfection has been ruled out, and symptoms have not resolved, perform a test-of-cure using culture and antibiotic susceptibility testing and report to the LAC Division of HIV & STD Programs. For clinical consult and for help in obtaining GC culture call (213)368-7441 or the CA STD Control Branch at 510-620-3400. For specific treatment guidance, go to www.std.ca.gov ("STD Guidelines, California Gonorrhea Treatment Guidelines --- Suspected Gonorrhea Treatment Failure").

[6] Oral cephalosporins give lower and less-sustained bactericidal levels than ceftriaxone 250 mg; limited efficacy for treating pharyngeal GC. Cefixime should only be used when ceftriaxone is not available.

[7] Dual therapy with gemifloxacin 320 mg po plus azithromycin 2 g po or gentamicin 240 mg IM plus azithromycin 2 g po are potential alternatives. ID specialist consult may be prudent. Azithromycin monotherapy is no longer recommended due to resistance concerns and treatment failure reports. Pharyngeal GC patients treated with an alternative regimen should have a test of cure (with culture or NAAT) 14 days after treatment.

[8] Testing for gonorrhea and chlamydia is recommended because a specific diagnosis may improve compliance and partner management and because these infections are reportable by state law.

[9] Evaluate for bacterial vaginosis. If present or cannot be ruled out, also use metronidazole. If parenteral therapy is selected, discontinue 24-48 hours after patient improves clinically and continue with oral therapy for a total of 14 days.

[10] In the setting of allergy to cephalosporins, fluoroquinolones can be considered for PID if the risk of GC is low, a NAAT test for GC is performed, and follow-up of the patient can be assured. If GC is documented, the patient should be re-treated based on antimicrobial susceptibility test results (if available). If antimicrobial susceptibility testing reveals fluoroquinolone resistance or if testing is unavailable then consultation with ID specialist is recommended for treatment options.

[11] If patient lives in community with high GC prevalence, or has risk factors (e.g. age <25 years, new partner, partner with concurrent sex partners, or sex partner with a STD), consider empiric treatment for GC.

[12] *Mycoplasma genitalium* causes urethritis and possibly cervicitis that can persist despite treatment with azithromycin. Moxifloxacin 400 mg orally for 7 days is recommended for persistent NGU in men and can be considered for persistent cervicitis in women. In areas of high T. vaginalis prevalence, men who have sex with women (MSW) with persistent urethritis should also be treated for T. vaginalis.

[13] Gonorrhea should be ruled out prior to starting a fluroquinolone-based regimen.

[14] For suspected drug-resistant trichomoniasis, rule out re-infection; see 2015 CDC Guidelines, Persistent or Recurrent Trichomonas section, for other treatment options, and evaluate for metronidazole-resistant *T. vaginalis*. For consultation call 510-620-3400 or contact the STD Clinical Consultation Network at www.stdccn.org

[15] All women should be retested for trichomoniasis 3 months after treatment.

[16] Safety in pregnancy has not been established; avoid during pregnancy. When using tinidazole, breastfeeding should be deferred for 72 hours after 2 g dose.

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County of Los Angeles Public Health

DISEASE	RECOMMENDED REGIMENS	DOSE/ROUTE	ALTERNATIVE REGIMENS: To be used if medical contraindication to recommended regimen
BACTERIAL VAGINOSIS			
Adults/Adolescents	• Metronidazole **or** • Metronidazole gel **or** • Clindamycin cream[17]	500 mg po bid x 7 d 0.75%, one full applicator (5 g) Intravaginally qd x 5 d 2%, one full applicator (5 g) Intravaginally qhs x 7 d	• Tinidazole[16] 2 g po qd x 2 d **or** • Tinidazole[16] 1 g po qd x 5 d **or** • Clindamycin 300 mg po bid x 7 d **or** • Clindamycin ovules[17] 100 mg intravaginally qhs x 3 d
Pregnant Women	• Metronidazole **or** • Metronidazole gel **or** • Clindamycin cream[17]	500 mg po bid x 7 d 0.75%, one full applicator (5 g) Intravaginally qd x 5 d 2%, one full applicator (5 g) Intravaginally qhs x 7 d	• Clindamycin 300 mg po bid x 7 d **or** • Clindamycin ovules[17] 100 mg intravaginally qhs x 3 d
ANOGENITAL WARTS			
External Genital/Perianal Warts	Patient-Applied • Imiquimod[17,18] 5% cream **or** • Imiquimod[17,18] 3.75% cream **or** • Podofilox[16] 0.5% solution or gel **or** • Sinecatechins[16,17] 15% ointment Provider-Administered • Cryotherapy **or** • Trichloroacetic acid (TCA) 80%-90% **or** • Bichloroacetic acid (BCA) 80%-90% **or** • Surgical removal	 Topically qhs 3 times/ wk up to 16 wks Topically qhs 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 – Provider Administered • Podophyllin resin[16,19] 10%-25% in tincture of benzoin apply q 1-2 wks **or** • Intralesional interferon **or** • Photodynamic therapy **or** • Topical cidofovir
Mucosal Genital Warts[20]	• Cryotherapy **or** • Surgical removal **or** • TCA or BCA 80%-90%	Vaginal, urethral meatus, cervical, anal Vaginal, urethral meatus, cervical, anal Vaginal, cervical, anal	
ANOGENITAL HERPES[21]			
First Clinical Episode of Anogenital Herpes	• Acyclovir **or** • Acyclovir **or** • Valacyclovir **or** • Famciclovir	400 mg po tid x 7-10 d 200 mg po 5x/day x 7-10 d 1 g po bid x 7-10 d 250 mg po tid x 7-10 d	
Established Infection Suppressive Therapy[22]	• Acyclovir **or** • Valacyclovir **or** • Valacyclovir **or** • Famciclovir[22]	400 mg po bid 500 mg po qd 1 g po qd 250 mg po bid	
Suppressive Therapy for Pregnant Women (start at 36 weeks gestation)	• Acyclovir **or** • Valacyclovir	400 mg po tid 500 mg po bid	
Episodic Therapy for Recurrent Episodes	• Acyclovir **or** • Acyclovir **or** • Acyclovir **or** • Valacyclovir **or** • Valacyclovir **or** • Famciclovir **or** • Famciclovir **or** • Famciclovir	400 mg po tid x 5 d 800 mg po bid x 5 d 800 mg po tid x 2 d 500 mg po bid x 3 d 1 g po qd x 5 d 125 mg po bid x 5 d 1g po bid x 1 d 500 mg po once, then 250 mg bid x 2 d	
HIV Co-Infected[23]			
Suppressive Therapy[22]	• Acyclovir **or** • Valacyclovir **or** • Famciclovir[22]	400-800 mg po bid or tid 500 mg po bid 500 mg po bid	
Episodic Therapy for Recurrent Episodes	• Acyclovir **or** • Valacyclovir **or** • Famciclovir	400 mg po tid x 5-10 d 1g po bid x 5-10 d 500 mg po bid x 5-10 d	
SYPHILIS[24,25]			
Primary, Secondary, and Early Latent[29]	• Benzathine penicillin G	2.4 million units IM	• Doxycycline[26] 100 mg po bid x 14 d **or** • Tetracycline[26] 500 mg po qid x 14 d **or** • Ceftriaxone[26] 1 g IM or IV qd x 10-14 d
Late Latent	• Benzathine penicillin G	7.2 million units, administered as 3 doses of 2.4 million units IM each, at 1-week intervals	• Doxycycline[26] 100 mg po bid x 28 d **or** • Tetracycline[26] 500 mg po qid x 28 d
Neurosyphilis and Ocular Syphilis[27]	• Aqueous crystalline penicillin G	18-24 million units daily, administered as 3-4 million units IV q 4 hrs x 10-14 d	• Procaine penicillin G, 2.4 million units IM qd x 10-14 d **plus** Probenecid 500 mg po qid x 10-14 d **or** • Ceftriaxone[26] 2 g IM or IV qd x 10-14 d
Pregnant Women[28] NOTE: Pregnant women who miss any dose of therapy must repeat full course of treatment.			
Primary, Secondary, and Early Latent[29]	• Benzathine penicillin G	2.4 million units IM	• None
Late Latent	• Benzathine penicillin G	7.2 million units, administered as 3 doses of 2.4 million units IM each, at 1-week intervals	• None
Neurosyphilis and Ocular Syphilis[27]	• Aqueous crystalline penicillin G	18-24 million units daily, administered as 3-4 million units IV q 4 hrs x 10-14 d	• 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; avoid during pregnancy. When using tinidazole, breastfeeding should be deferred for 72 hours after 2 g dose.
[17] May weaken latex condoms and contraceptive diaphragms. Patients should follow directions on package insert carefully regarding whether to wash area after treatment (e.g. imiquimod) versus leaving product on the affected area (e.g. sinecatechins).
[18] Limited human data on imiquimod use in pregnancy; animal data suggest low risk.
[19] Podophyllin resin is now an alternative rather than recommended regimen; severe toxicity has been reported.
[20] Cervical and intra-anal warts should be managed in consultation with specialist.
[21] Counseling about natural history, asymptomatic shedding, and sexual transmission is an essential component of herpes management.
[22] The goal of suppressive therapy is to reduce recurrent symptomatic episodes and/or to reduce sexual transmission. Famciclovir is somewhat less effective for suppression of viral shedding.
[23] 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.
[24] 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.
[25] 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.
[26] 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.
[27] Some specialists recommend 2.4 million units of benzathine penicillin G once weekly for up to 3 weeks after completion of neurosyphilis treatment.
[28] Pregnant women allergic to penicillin should be desensitized and treated with penicillin. There are no alternatives. Pregnant women who miss any dose of therapy (greater than 7 days between doses) must repeat the full course of treatment.
[29] Providers diagnosing any HIV negative patients with early syphilis in Los Angeles County should test their patient for HIV as well as discuss HIV prevention options, including pre-exposure prophylaxis.

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