California Sexually Transmitted Infections (STIs) Treatment Guidelines Table for Adults & Adolescents

These guidelines reflect the 2021 CDC STI Treatment Guidelines for adults and adolescents who are HIV negative as well as those with HIV. Call the local health department for assistance with confidential notification of sexual partners of patients with STIs or HIV. For complex STI clinical management consultation (such as in cases of multiple allergies or treatment failure), contact the California Department of Public Health Office of STIs and Hepatitis C Virus (HCV) via email (stdcb@cdph.ca.gov) or phone (510-620-3400) or submit your question online to the STD Clinical Consultation Network (stdccn.org).

Infection/Disease	Recommended Regimens	**Alternative Regimens:** To be used if medical contraindication to recommended regimen.
Chlamydia (CT)	**Urogenital/Rectal/Pharyngeal Infections** • Doxycycline[1] 100 mg po bid x 7 d	**Urogenital/Rectal/Pharyngeal Infections** • Azithromycin 1 g po x 1 dose **or** • Levofloxacin 500 mg po once daily x 7 d
	Pregnant Patients[2] • Azithromycin 1 g po x 1 dose	**Pregnant Patients[2]** • Amoxicillin 500 mg po tid x 7 d
Gonorrhea (GC) *Monotherapy with IM ceftriaxone is recommended for all patients with gonorrhea, including pregnant patients. If co-infection with chlamydia has not been excluded, add doxycycline 100 mg po bid x 7 d for non-pregnant persons or azithromycin 1 g po x 1 dose for pregnant persons.*	**Urogenital/Rectal Infections[3]** • Ceftriaxone 500 mg IM x 1 dose for persons weighing <150 kg[4] **or** • Ceftriaxone 1 g IM x 1 dose for persons weighing ≥150 kg	**Urogenital/Rectal Infections[3]** If cephalosporin allergy: dual therapy with • Gentamicin[1] 240 mg IM x 1 dose **plus** Azithromycin 2 g po x 1 dose If ceftriaxone not available or feasible, but no allergy concerns: • Cefixime 800 mg x 1 dose[5]
	Pharyngeal Infections[3,6] • Ceftriaxone 500 mg IM x 1 dose for persons weighing <150 kg[4] **or** • Ceftriaxone 1 g IM x 1 dose for persons weighing ≥150 kg	**Pharyngeal Infections[3,6]** No reliable treatment alternatives. Consult an infectious disease specialist or submit a question online STD Clinical Consultation Network (stdccn.org).
Pelvic Inflammatory Disease (PID)[7] *(Etiologies: CT, GC, anaerobes, possibly* M. genitalium, *others)*	**Parenteral** • Ceftriaxone 1 g IV q 24 hrs **plus** Doxycycline[1] 100 mg IV or po q 12 hrs **plus** Metronidazole 500 mg IV or po q 12 hrs **or** • Either Cefotetan 2 g IV q 12 h **or** Cefoxitin 2 g IV q 6h, **plus** Doxycycline[1] 100 mg po or IV q 12 hrs	**Parenteral** • Ampicillin/Sulbactam 3 g IV q 6 hrs **plus** Doxycycline[1] 100 mg po or IV q 12 hrs **or** • Clindamycin 900 mg IV q 8 hrs **plus** Gentamicin[1] 2 mg/kg IV or IM x 1 as loading dose **followed by** Gentamicin[1] 1.5 mg/kg IV or IM q 8 h as maintenance dose (or can substitute with Gentamicin[1] 3-5 mg/kg IM or IV 1x daily)
	IM/Oral[9] • Ceftriaxone 500 mg IM x 1 dose[4] (or another 3rd generation cephalosporin[8]) **plus** Doxycycline[1] 100 mg po bid x 14 d **with** Metronidazole 500 mg po bid x 14 d **or** • Cefoxitin 2 g IM x 1 dose administered with Probenecid 1 g po x 1 dose **plus** Doxycycline[1] 100 mg po bid x 14 d **with** Metronidazole 500 mg po bid x 14 d	**IM/Oral[9]** • Either Levofloxacin 500 mg po daily with Metronidazole 500 mg po bid x 14 d **or** • Moxifloxacin 400 mg po daily **or** • Azithromycin 500 mg IV daily x 1-2 doses followed by 250 mg po daily **with** Metronidazole 500 mg po bid x 12-14 d
Cervicitis[10] *(Etiologies: CT, GC,* T. vaginalis, *HSV, possibly* M. genitalium*)*	• Doxycycline[1] 100 mg po bid x 7 d	• Azithromycin 1 g po x 1 dose
Nongonococcal Urethritis (NGU)[10]	• Doxycycline[1] 100 mg po bid x 7 d	• Azithromycin 1 g po x 1 dose **or** • Azithromycin 500 mg po x 1 dose, then 250 mg po daily x 4 d
Recurrent/ Persistent NGU *(Etiolgies:* M. genitalium, T.vaginalis, *other bacteria)*	**1) Test for *M. genitalium* (MG)** If MG test positive but resistance testing unavailable, use: • Doxycycline[1] 100 mg po bid x 7 d **followed by** Moxifloxacin 400 mg po daily x 7 d If MG test positive and resistance testing is available, use: *Macrolide sensitive:* • Doxycycline[1] 100 mg po bid x 7 d **followed by** Azithromycin 1 g po once, then 500 mg daily on next 3 d *Macrolide resistant:* • Doxycycline[1] 100 mg po bid x 7 d **followed by** Moxifloxacin 400 mg po daily x 7 d **2) Test and treat presumptively for *T. vaginalis* in men who have sex with women (MSW) in areas where infection is prevalent** • Metronidazole 2 g po x 1 dose **or** • Tinidazole 2 g po x 1 dose	For settings without MG resistance testing and when moxifloxacin cannot be used: • Doxycycline[1] 100 mg po bid x 7 d **followed by** Azithromycin 1 g po x 1 dose on first day, then 500 mg po once daily for 3 d • Perform a test of cure 21 d after treatment
Proctitis: *(Etiologies: GC, CT including LGV, HSV,* T. pallidum, *possibly* M. genitalium*);*	• Ceftriaxone 500 mg IM x 1 dose for persons weighing <150 kg[4] **or** • Ceftriaxone 1 g IM x 1 dose for persons weighing ≥150 kg **plus** Doxycycline[1] 100 mg po bid x 7 d[11]	• None
Lymphogranuloma Venereum (LGV)	• Doxycycline[1] 100 mg po bid x 21 d	• Azithromycin 1 g po once weekly x 3 weeks[12] **or** • Erythromycin base 500 mg po qid x 21 d
Trichomoniasis[13] *NOTE: Treatment recommendations do not vary by HIV status.*	**Cervicovaginal infection** • Metronidazole 500 mg po bid x 7 d	**Cervicovaginal infection** • Tinidazole[14] 2 g po x 1 dose **or** • Secnidazole[15] 2 g po x 1 dose
	Penile infection • Metronidazole 2 g po x 1 dose	**Penile infection** • None
Bacterial Vaginosis	• Metronidazole 500 mg po bid x 7 d **or** • Metronidazole gel 0.75% one full applicator (5 g) intravaginally once daily x 5 d **or** • Clindamycin cream 2% one full applicator (5 g) intravaginally qhs x 7 d	• Tinidazole[14] 2 g po daily x 2 d **or** • Tinidazole[14] 1 g po daily x 5 d **or** • Secnidazole[15] 2 g po x 1 dose **or** • Clindamycin 300 mg po bid x 7 d **or** • Clindamycin ovules[16] 100mg intravaginally qhs x 3 d

Infection/Disease	Recommended Regimens	**Alternative Regimens:** To be used if medical contraindication to recommended regimen.
Epididymitis	If likely due to GC or CT • Ceftriaxone 500 mg IM x 1 dose[4] **plus** Doxycycline 100 mg po bid x 10 d If likely due to GC, CT or enteric organisms (history of insertive anal sex) • Ceftriaxone 500 mg IM x 1 dose[4] **plus** Levofloxacin 500 mg po daily x 10 d If most likely due to enteric organisms alone (GC and CT tests negative) • Levofloxacin[17] 500 mg po daily x 10 d	• None
Anogenital Warts - External Genital/Perianal Warts	**Patient-Applied** • Imiquimod[18,19] 5% cream topically qhs 3x/wk up to 16 wks **or** • Imiquimod[18,19] 3.75% cream topically qhs for up to 8 wks **or** • Podofilox 0.5% solution or gel topically bid x 3 d then 4 d off, repeat up to 4 cycles **or** • Sinecatechins[18] 15% ointment topically tid for up to 16 wks	**Patient-Applied** • None
	Provider-Administered • Cryotherapy with liquid nitrogen, apply once q1-2 wks **or** • Trichloroacetic acid (TCA) 80%-90%, apply once q 1-2 wks **or** • Bichloroacetic acid (BCA) 80%-90%, apply once q 1-2 wks **or** • Surgical removal	**Provider Administered (fewer data available)** • Podophyllin resin[20] 10-25% in tincture of benzoin, applied weekly PRN **or** • Intralesional interferon **or** • Photodynamic therapy **or** • Topical cidofovir
Anogenital Warts - Mucosal Genital Warts	**Urethral meatus, Vaginal, Cervical, Intra-Anal** • Cryotherapy[21] with liquid nitrogen **or** • Surgical removal **or**	**Urethral meatus, Vaginal, Cervical, Intra-Anal** • None
	Vaginal, Cervical, Intra-anal • TCA or BCA 80-90%	**Vaginal, Cervical, Intra-anal** • None
Anogenital Herpes	**First Clinical Episode of Herpes[22]** • Acyclovir 400 mg po tid x 7-10 d **or** • Valacyclovir 1 g po bid x 7-10 d **or** • Famciclovir 250 mg po tid x 7-10 d	**First Clinical Episode of Herpes[22]** • None
	Daily Suppressive Therapy for Recurrences (if no HIV co-infection) • Acyclovir 400 mg po bid **or** • Valacyclovir 500 mg po daily[23] **or** • Valacyclovir 1 g po daily **or** • Famciclovir[24] 250 mg po bid	**Daily Suppressive Therapy for Recurrences (if no HIV co-infection)** • None
	Daily Suppressive Therapy in Pregnant Patients (start at 36 weeks gestation) • Acyclovir 400 mg po tid **or** • Valacyclovir 500 mg po bid	**Daily Suppressive Therapy in Pregnant Patients (start at 36 weeks gestation)** • None
	Episodic Therapy for Recurrences (If no HIV co-infection) • Acyclovir 800 mg po bid x 5 d **or** • Acyclovir 800 mg po tid x 2 d **or** • Valacyclovir 500 mg po bid x 3 d **or** • Valacyclovir 1 g po daily x 5 d **or** • Famciclovir 1 gm po bid x 1 d **or** • Famciclovir 500 mg po once, then 250 mg po bid x 2 d **or** • Famciclovir 125 mg po bid x 5 d	**Episodic Therapy for Recurrences (If no HIV co-infection)** • None
Anogenital Herpes - Persons with HIV[25]	**Daily Suppressive Therapy** • Acyclovir 400-800 mg po 2-3 times daily **or** • Valacyclovir 500 mg po bid **or** • Famciclovir[24] 500 mg po bid	**Daily Suppressive Therapy** • None
	Episodic Therapy for Recurrences • Acyclovir 400 mg po tid x 5-10 d **or** • Valacyclovir 1 gm po bid x 5-10 d **or** • Famciclovir 500 mg po bid x 5-10 d	**Episodic Therapy for Recurrences** • None
Syphilis[26] *NOTE: Treatment recommendations do not vary by HIV status.*	**Primary, Secondary, and Early Latent** • Benzathine penicillin G 2.4 million units IM x 1 dose	**Primary, Secondary, and Early Latent** • Doxycycline[27] 100 mg po bid x 14 d **or** • Tetracycline[27] 500 mg po qid x 14 d **or** • Ceftriaxone[27] 1 g IM or IV daily x 10-14 d
	Late Latent or Syphilis of Unknown Duration or Tertiary Syphilis with normal CSF • Benzathine penicillin G 7.2 million units total, administered as 3 doses of 2.4 million units IM each at 1 week intervals[28]	**Late Latent or Syphilis of Unknown Duration or Tertiary Syphilis with normal CSF** • Doxycycline[27] 100 mg po bid x 28 d **or** • Tetracycline[27] 500 mg po qid x 28 d
	Neurosyphilis, Ocular Syphilis, and Otosyphilis[29] • Aqueous crystalline penicillin G 18-24 million units daily, administered as 3-4 million units IV q 4 hrs or as continuous infusion x 10-14 d	**Neurosyphilis, Ocular Syphilis, and Otosyphilis[29]** • Procaine penicillin G 2.4 million units IM daily x 10-14 d **plus** Probenecid 500 mg po qid x 10-14 d **or, in the setting of severe penicillin allergy** • Ceftriaxone[27] 1-2 gm IM or IV daily x 10-14 d
Syphilis in Pregnant Patients[30] *NOTE: Pregnant patients who miss any dose of therapy must repeat full course of treatment.*	**Primary, Secondary, and Early Latent** • Benzathine penicillin G 2.4 million units IM x 1 dose[31]	**Primary, Secondary, and Early Latent** • None
	Late Latent or Syphilis of Unknown Duration OR Tertiary Syphilis with normal CSF • Benzathine penicillin G 7.2 million units total, administered as 3 doses of 2.4 million units IM each, at 1-week intervals[32]	**Late Latent or Syphilis of Unknown Duration OR Tertiary Syphilis with normal CSF** • None
	Neurosyphilis, Ocular Syphilis, and Otosyphilis[29] • Aqueous crystalline penicillin G 18-24 million units daily, administered as 3-4 million units IV q 4 hrs or as continuous infusion x 10-14 d	**Neurosyphilis, Ocular Syphilis, and Otosyphilis[29]** • Procaine penicillin G 2.4 million units IM daily x 10-14 d **plus** Probenecid 500 mg po qid x 10-14 d

Additional Notes:

[1] Contraindicated for pregnant patients.

Chlamydia (CT):

[2] Every effort should be made to use a recommended regimen. Test-of-cure follow-up with a nucleic acid amplification test (NAAT) 4 weeks after completion of therapy is recommended in pregnancy.

Gonorrhea (GC):

[3] See Gonorrhea Treatment Guidelines and Management of Suspected Treatment Failure (PDF) if suspected GC treatment failure.

[4] For persons weighing ≥150 kg, use 1 gm IM ceftriaxone x 1 dose instead.

[5] Oral cephalosporins give lower and less-sustained bactericidal levels than ceftriaxone. Cefixime should only be used when ceftriaxone is not available.

[6] Test-of-cure by culture or NAAT is recommended 14 days after treatment of pharyngeal GC.

Pelvic Inflammatory Disease (PID):

[7] If parenteral therapy is selected initially, discontinue 24-48 hours after patient improves clinically and continue with either IM or oral therapy for a total of 14 days.

[8] Other parenteral third-generation cephalosporin (e.g., cefotaxime or ceftizoxime) could be substituted for ceftriaxone.

[9] If allergy to cephalosporins, can consider fluoroquinolones/azithromycin for PID treatment if community prevalence and individual risk of GC is low and follow-up is assured. Obtain NAAT testing and GC culture before using fluoroquinolone/azithromycin treatment. If community prevalence of GC is not low, follow-up is uncertain, and culture with antimicrobial susceptibility testing is not available, consider using the alternative treatment for GC (gentamicin and azithromycin) plus 14 days of doxycycline and metronidazole in patients with true cephalosporin allergies.

Cervicitis:

[10] 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 an STI), consider empiric treatment for GC.

Lymphogranuloma Venereum (LGV):

[11] Extend doxycycline course to 21 days to cover LGV if perianal or mucosal ulcers, bloody rectal discharge, or tenesmus and rectal CT positive. If perianal or mucosal ulcers present, consider treating for HSV as well.

[12] Because this regimen has not been rigorously validated, consider a test of cure with CT NAAT four weeks after treatment.

Trichomoniasis and/or Bacterial Vaginosis:

[13] For suspected drug-resistant trichomoniasis consult the 2021 CDC STI treatment guidelines, contact the CDPH Office of STIs and HCV, or consult the STD Clinical Consultation Network webpage.

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

[15] Sprinkle oral granules on applesauce/yogurt/pudding before ingestion. Glass of water after dose can aid in swallowing. FDA-approved for treatment of trichomonas after the release of the CDC's 2021 STI Treatment Guidelines.

[16] Clindamycin ovules may weaken latex or rubber products (such as condoms and diaphragms). Use of such products within 72 hours following use of clindamycin ovules is not recommended.

Epididymitis:

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

Anogenital Warts:

[18] May weaken condoms and vaginal diaphragms. Advise patients to follow package insert directions carefully. Imiquimod users wash area 6-10 hours after application. Sinecatechin ointment should not be washed off.

[19] Limited human data on imiquimod use in pregnancy; animal data suggest low risk.

[20] Podophyllin resin is an alternative rather than recommended regimen due to reports of severe toxicity. The safety of podophyllin in pregnancy has not been established.

[21] The use of a cryoprobe in the vagina is not advised due to risk of vaginal perforation and fistula formation.

Anogenital Herpes (HSV):

[22] Treatment can be extended if healing is incomplete after 10 days of antiviral therapy.

[23] Valacyclovir 500 mg once a day might be less effective than other valacyclovir or acyclovir dosing regimens for persons who have frequent recurrences (i.e., ≥10 episodes/year.

[24] Famciclovir is somewhat less effective for suppression of viral shedding.

[25] If concern for resistance based on persistent HSV lesions, obtain a viral isolate for sensitivity testing. Consultation with an infectious disease expert is recommended.

Syphilis:

[26] Benzathine penicillin G 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.

[27] Alternative regimens should be used only for penicillin-allergic patients. If compliance or follow-up cannot be ensured, the patient should be desensitized and treated with benzathine penicillin.

[28] In non-pregnant patients, pharmacologic considerations reveal an interval of 7-9 days is ideal.

[29] Some specialists recommend 2.4 million units of benzathine penicillin G once weekly for 1 to 3 weeks immediately after completion of neurosyphilis treatment.

[30] Pregnant patients allergic to penicillin should be desensitized and treated with penicillin. There are no alternatives.

[31] For early syphilis, many experts give a 2nd dose of benzathine penicillin G 2.4 million units IM one week after the initial dose.

[32] The optimal treatment interval in pregnancy is 7 days. If treatment occurs outside of 6–8-day intervals, the full treatment course should be restarted