STI TREATMENT GUIDELINES TABLE FOR ADULTS & ADOLESCENTS 2017

PROUD TO BE PrEPPED

These recommendations for the treatment of STIs reflect the **2015 CDC STI Treatment Guidelines;** the focus is primarily on STIs encountered in outpatient practice. This table is intended as a source of clinical guidance and is not a comprehensive list of all effective regimens. For more information, please refer to the complete CDC document at http://www.cdc.gov/std/tg2015/default.htm.

DOSING ABBREVIATIONS: d=day; qd=once each day; bid=twice daily; tid=three times a day; qid=four times a day; po=by mouth; IM=intramuscular injection; IV=intravenous; mg=milligram; g=gram; hs=hour of sleep; prn=as needed; qhs=once each night.

DISEASE	RECOMMENDED REGIMENS	ALTERNATIVE REGIMENS
CHLAMYDIA		
Uncomplicated Genital/Rectal/ Pharyngeal Infections	• Azithromycin 1g po x 1 **or** • Doxycycline§ 100mg po bid x 7 d	• Erythromycin base 500mg po qid x 7 d **or** Erythromycin ethylsuccinate 800mg po qid x 7 d **or** Ofloxacin§ 300mg po bid x 7 d **or** Levofloxacin§ 500mg po qd x 7 d
Pregnant Women	• Azithromycin 1g po x 1	• Amoxicillin 500mg po tid x 7 d (alternative due to concern for persistent infection following penicillin exposure) **or** Erythromycin base 500mg po qid x 7 d **or** Erythromycin base 250mg po qid x 14 d **or** Erythromycin ethylsuccinate 800mg po qid x 7 d **or** Erythromycin ethylsuccinate 400mg po qid x 14 d
GONORRHEA[1] Ceftriaxone 250mg IM plus azithromycin 1 g oral single dose is the preferred treatment for adults and adolescents with uncomplicated gonorrhea. This dual therapy is recommended for all patients with gonorrhea regardless of chlamydia test results to prevent resistance.[1] For ALTERNATIVE REGIMENS: If a patient with oral pharyngeal gonorrhea is treated with an alternative regimen, the patient should return 14 days after treatment for a test-of-cure (NAAT or culture. For all GC infections, if symptoms persist, send culture with susceptibility testing) at the infected anatomic site.[1]		
Uncomplicated Genital/Rectal Infections	**Dual therapy with** • Ceftriaxone 250 mg IM **PLUS** • Azithromycin 1g po Use of **azithromycin** as the second antimicrobial is preferred to doxycycline because of the convenience and compliance with single-dose therapy and the substantially higher prevalence of gonococcal resistance to tetracycline among Gonococcal Isolate Surveillance Project (GISP) isolates, particularly in strains with elevated cefixime MICs	**If an intramuscular injection cannot be given, dual therapy with** • Cefixime[2] 400 mg po **PLUS** • Azithromycin[3] 1g po **If allergic to cephalosporins or severe penicillin allergy** • Gemifloxacin 320mg po plus azithromycin 2 g po single dose **or** • Gentamicin 240mg IM plus azithromycin 2 g po single dose **If allergic to azithromycin** • Ceftriaxone or Cefixime plus Doxycycline 100mg po BID x 7 days
Pharyngeal Infections	**Dual therapy with** • Ceftriaxone 250 mg IM **PLUS** • Azithromycin 1g po	**Dual therapy with** • Gemifloxacin 320mg po plus azithromycin 2 g single dose **or** • Gentamicin 240mg IM plus azithromycin 2 g single dose
Pregnant Women	**Dual therapy with** • Ceftriaxone 250 mg IM **PLUS** • Azithromycin 1 g po	Cefixime[2] 400 mg po **PLUS** Azithromycin[3] 1g po **If allergic to cephalosporins or severe penicillin allergy: consult ID**
PELVIC INFLAMMATORY DISEASE **Oral regimens** (For parenteral regimens, see www.cdc.gov/std/treatment/2015/)	• Ceftriaxone 250 mg IM x 1 or • Cefoxitin 2g IM x 1 **with** Probenecid 1g po x 1 given concurrently **PLUS** Doxycycline§ 100mg po bid x 14 d **with or without** Metronidazole[4] 500mg po bid x 14 d	• Azithromycin 500mg IV 1–2 doses followed by 250mg po daily x 12–14 days with or without metronidazole 500mg bid x 14 days • Ceftriaxone 250mg IM single dose plus azithromycin 1 gram once a week x 2 weeks with or without metronidazole • Quinolone use only if penicillin allergy, if gonorrhea risk is low, and if gonorrhea test performed prior to treatment. Treatment with Levofloxacin[5] 500mg daily, or Ofloxacin[5] 400mg bid or Moxifloxacin 400mg daily with Metronidazole 500mg bid x 14 days. Susceptibility testing should guide further management in consultation with STD or ID specialist.
CERVICITIS[6]	• Azithromycin 1g po x 1 **or** • Doxycycline§ 100mg po bid x 7d Consider concurrent treatment for GC if at risk for GC **or** living in area of high prevalence of GC	
NONGONOCOCCAL URETHRITIS	• Azithromycin 1g po x 1 **or** • Doxycycline 100mg po bid x 7 d	• Erythromycin base 500mg po qid x 7 d **or** Erythromycin ethylsuccinate 800mg po qid x 7 d **or** • Levofloxacin 500mg po qd x 7 d **or** Ofloxacin 300mg po bid x 7 d
RECURRENT AND PERSISTENT URETHRITIS[7]	Treatment for presumptive T. vaginalis and M. genitalium with: • Metronidazole 2g po x 1 **or** Tinidazole 2g po x 1 **PLUS** • Azithromycin 1g po x 1 (if not used initially)	• Moxifloxacin 400mg qd x 7 d Treatment with moxifloxacin may also be used if initial treatment with azithromycin failed
ACUTE EPIDIDYMITIS	**Likely due to gonorrhea or chlamydia**[8]**:** • Ceftriaxone 250mg IM x 1 **PLUS** • Doxycycline 100mg po bid x **10 d** **Likely due to enteric organisms or with a negative GC culture or NAAT**[8]**:** • Levofloxacin 500mg po qd x 10 d **or** Ofloxacin 300mg po bid x 10 d	**For men at risk for both sexually transmitted and enteric organisms:** • Ceftriaxone 250mg IM x 1 **PLUS** • Levofloxacin 500mg po qd x 10 d **or** Ofloxacin 300mg po bid x 10 d
TRICHOMONIASIS		
Non-Pregnant Women[9]	• Metronidazole 2g po x 1 **or** Tinidazole[10] 2g po x 1	• Metronidazole 500mg po bid x 7 d
Pregnant Women	• Metronidazole 2g po x 1	• Metronidazole 500mg po bid x 7 d
BACTERIAL VAGINOSIS		
Adults/Adolescents	• Metronidazole 500mg po bid x 7 d **or** Metronidazole gel 0.75%, one full applicator (5g) intra vaginally qd x 5 d **or** Clindamycin cream[11] 2%, one full applicator (5g) intra vaginally qhs x 7 d	• Tinidazole[10] 2g po qd x 2 d **or** Tinidazole[10] 1g po qd x 5 d **or** • Clindamycin 300mg po bid x 7 d **or** Clindamycin ovules 100mg intravaginally qhs x 3d
Pregnant Women	• Metronidazole 500mg po bid x 7 d or Metronidazole gel regimens equally effective	

§ Contraindicated in pregnant and nursing women.

1 For suspected treatment failure: Re-test via NAAT and culture with antibiotic susceptibility testing from affected anatomical site(s). If patient was not treated with the recommended regimen, retreat with Ceftriaxone 250 mg IM plus Azithromycin 2 g po as a single dose, unless allergies preclude use of that regimen. If patient was previously treated with the recommended regimen or allergies preclude use of the regimen, consult with a local ID specialist. For further guidance, go to www.cdc.gov/std/Gonorrhea/treatment.htm. In Colorado, to report suspected treatment failures, call 866-692-2697. If a patient with gonorrhea is treated with an alternative regimen, the patient should return 1 week after treatment for a test-of-cure at the infected anatomic site, http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6131a3.htm?s_cid=mm6131a3_w.

2 Oral cephalosporins give lower and less-sustained bactericidal levels than ceftriaxone 250 mg and have limited efficacy for treating pharyngeal GC. Therefore, ceftriaxone is the preferred medication. No other oral cephalosporin is recommended due to inferior efficacy and less favorable pharmacodynamics.

3 Due to concerns over emerging antimicrobial resistance, use should be limited to those with severe cephalosporin allergy or history of severe reaction to penicillin.

4 Metronidazole offers additional anaerobic coverage and will treat BV and trichomoniasis, if present.

5 A quinolone-based regimen can be considered if a cephalosporin is not feasible and if individual risk and local prevalence of gonorrhea are low. If the test for gonorrhea is positive, the addition of azithromycin 2g po as a single dose is recommended.

6 Presumptive regimen. Co-treat for gonorrhea if local prevalence is high (>5%). Treat for BV and trichomoniasis, if present.

7 Recommended treatment for patients with persistent symptoms if compliant with initial regimen and re-exposure can be excluded. Consider testing for T. vaginalis infection.

8 Among sexually active men aged <35 yrs, epididymitis is more likely caused by C. trachomatis or N. gonorrhoeae. For men who practice insertive anal intercourse or men aged >35 yrs, epididymitis may be caused by enteric organisms.

9 7-day Metronidazole regimen may be more effective in HIV-infected women.

10 Safety during pregnancy has not been established (Pregnancy Category C); interruption of breastfeeding is recommended during treatment and for 3 days after last dose.

11 Oil-based; might weaken latex condoms and diaphragms for up to 5 days after use.

DISEASE	RECOMMENDED REGIMENS	ALTERNATIVE REGIMENS
ACUTE PROCTITIS[12, 13]	• Ceftriaxone 250mg IM x 1 **PLUS** • Doxycycline[§] 100mg po bid x 7 d	
LYMPHOGRANULOMA VENEREUM	• Doxycycline[§] 100mg po bid x 21 d	• Erythromycin base 500mg po qid x 21 d **or** • Azithromycin 1g po q week x 3 weeks
CHANCROID	• Azithromycin 1g po x 1 **or** Ceftriaxone 250mg IM x 1 **or** Ciprofloxacin[§] 500mg po bid x 3 d **or** Erythromycin base 500mg po tid x 7 d	
SYPHILIS Benzathine penicillin G, Bicillin®L-A (trade name), is the preferred drug for treatment of all stages of syphilis and is the only treatment with documented efficacy for syphilis during pregnancy.[14]		
Adults (including HIV co-infected)[15]		
Primary, Secondary and Early Latent	• Benzathine penicillin G 2.4 million units IM x1	• Doxycycline[16, §] 100mg po bid x 14 d **or** • Tetracycline[16, §] 500mg po qid x 14 d **or**
Late Latent and Latent of Unknown Duration[17]	• Benzathine penicillin G 7.2 million units, administered as 3 doses of 2.4 million units IM each, at 1-week intervals[18]	• Doxycycline[16, §] 100mg po bid x 28 d **or** • Tetracycline[16, §] 500mg po qid x 28 d
Neurosyphilis	• Aqueous crystalline penicillin G 18–24 million units qd, administered as 3–4 million units IV q 4 hrs or continuous infusion x 10-14 d[19]	• Procaine penicillin G, 2.4 million units IM qd x 10–14 d **PLUS** Probenecid 500mg po qid x 10–14 d[19] **or**
Pregnant Women		
Primary, Secondary and Early Latent	• Benzathine penicillin G 2.4 million units IM x1	• None. If PCN allergic, desensitize and treat.
Late Latent and Latent of Unknown Duration[17]	• Benzathine penicillin G 7.2 million units, administered as doses of 2.4 million units IM each, at 1-week intervals	• None. If PCN allergic, desensitize and treat.
Neurosyphilis	• Aqueous crystalline penicillin G 18–24 million units qd, administered as 3–4 million units IV q 4 hrs or continuous infusion x 10–14 d[19]	• Procaine penicillin G, 2.4 million units IM qd x 10–14 d **PLUS** Probenecid 500mg po qid x 10–14 d[19] If PCN allergic, desensitize and treat

DISEASE	RECOMMENDED REGIMENS	
ANOGENITAL WARTS (Human Papillomavirus)		
External Genital/Perianal[20]	**Patient Applied** • Podofilox 0.5% solution/gel[21, 22]: apply bid x 3 d followed by 4 d no treatment; use for up to 4 cycles. Total area treated not to exceed 10cm2 and total volume used <0.5mL per day **or** • Imiquimod 5% cream[21, 23]: apply qhs 3x/week for up to 16 weeks; wash off after 6-10 hours **or** • Sinecatechins 15% ointment[21, 22, 23, 24]: apply tid (0.5cm strand of ointment per wart) for a maximum of 16 weeks	**Provider Administered** • Cryotherapy: repeat applications q 1–2 weeks or • Podophyllin resin[§] 10%–25%: apply q 1–2 weeks prn; wash off after 1–4 hours. Total area treated not to exceed 10cm2 and total volume used <0.5mL per day **or** • Trichloroacetic acid (TCA) 80%-90% **or** Bichloroacetic acid (BCA) 80%-90%: apply q week prn • Surgery—electrocautery, excision, laser, curettage
ANOGENITAL HERPES (HSV-2 and HSV-1)		
First Clinical Episode	• Acyclovir 400mg po tid x 7–10 d **or** 200mg po 5x/day x 7–10 d **or** • Famciclovir 250mg po tid x 7–10 d **or** • Valacyclovir 1g po bid x 7–10 d	
Established Infection	**Suppressive Therapy** • Acyclovir 400mg po bid **or** • Famciclovir 250mg po bid **or** • Valacyclovir 500mg po qd or 1g po qd	**Episodic Therapy for Recurrent Episodes** • Acyclovir 400mg po tid x 5 d **or** 800mg po bid x 5 d **or** 800mg po tid x 2 d **or** • Famciclovir 125mg po bid x 5 d **or** 1g po bid x 1 d **or** 500mg po x 1, then 250 mg bid x 2d **or** • Valacyclovir 500mg po bid x 3d **or** 1g po qd x 5 days
HIV Co-Infected[25]		
	Suppressive Therapy • Acyclovir 400–800mg po bid or tid **or** • Famciclovir 500mg po bid **or** • Valacyclovir 500mg po bid	**Episodic Therapy for Recurrent Episodes** • Acyclovir 400mg po tid x 5–10 d **or** • Famciclovir 500mg po bid x 5–10 d **or** • Valacyclovir 1g po bid x 5–10 d

§ Contraindicated in pregnant and nursing women.
12 Examine patients by anoscopy and evaluate for infection with HSV, gonorrhea, chlamydia and syphilis.
13 If painful perianal ulcers are present or mucosal ulcers detected on anoscopy, presumptive therapy should include a regimen for genital herpes and LGV.
14 Benzathine penicillin G is available in 1 long-acting formulation, Bicillin®L-A, which contains only benzathine penicillin G. Combination penicillin drug products, such as Bicillin® C-R, contain both long- and short-acting penicillins and should not be used to treat syphilis.
15 Most HIV-infected persons respond appropriately to standard benzathine penicillin regimens. HIV-infected patients with syphilis should be treated according to the stage-specific recommendations for HIV-negative persons.
16 Use alternative regimens for penicillin-allergic, non-pregnant patients only. Data to support the use of alternatives to penicillin are limited. If compliance or follow-up cannot be ensured, the patient should be desensitized and treated with benzathine penicillin.
17 Patients diagnosed with latent syphilis who demonstrate any of the following should have a prompt CSF exam to evaluate for neurosyphilis: 1) neurologic or ophthalmic signs or symptoms; 2) evidence of active tertiary syphilis; or 3) serologic or treatment failure.
18 An interval of 10-14 days between doses of benzathine penicillin for late or latent syphilis of unknown duration might be acceptable before restarting the sequence of injections.
19 Some specialists recommend an additional 2.4 million units of benzathine penicillin G IM q week for up to 3 weeks after completion of neurosyphilis treatment.
20 Mucosal genital warts (cervical, vaginal, anorectal, urethral meatus) should be managed in consultation with a specialist.
21 Safety profile during pregnancy not established; Pregnancy Category C.
22 Do not wash off after initial application.
23 May weaken condoms and diaphragms.
24 Use is not recommended for HIV-infected or other immunocompromised persons, or those with clinical genital herpes.
25 If HSV lesions persist or recur while receiving antiviral treatment, suspect antiviral resistance. Obtain a viral isolate for sensitivity testing and consult with an HIV specialist.

Adapted from:

NEW YORK CITY STD HIV PREVENTION TRAINING CENTER

Download the STD Treatment Guidelines App for both Apple and Android devices.

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