STD TREATMENT GUIDELINES TABLE FOR ADULTS & ADOLESCENTS 2011

These recommendations for the treatment of STDs reflect the **2010 CDC STD Treatment Guidelines**. The focus is primarily on STDs 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/treatment/2010/**.

The following are available resources in New York City: Call the NYCDOHMH at **212-788-4443** or go to **http://www.nyc.gov/health/std** to learn more about STDs and how to report infections; to request assistance with confidential notification of sexual partners of patients with syphilis or HIV infection; and to obtain additional information about NYC DOHMH clinical services. Health care providers can access the latest NYC public health information by joining NYC MED at **http://www.nyc.gov/health/nycmed**.

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.

DISEASE	RECOMMENDED REGIMENS	ALTERNATIVE REGIMENS
CHLAMYDIA[1]		
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[2]	• Azithromycin 1g po x 1 **or** • Amoxicillin 500mg po tid x 7 d	• 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[3, 4] Ceftriaxone 250mg IM is the preferred treatment for adults and adolescents with uncomplicated gonorrhea infection and is the only recommended regimen for pharyngeal infections. Dual therapy with a regimen effective against *C. trachomatis* is routinely recommended, regardless of chlamydia test results.		
Uncomplicated Genital/Rectal Infections	• Ceftriaxone **250mg** IM x 1 **or, if not an option** Cefixime 400mg po x 1, **or** Other single-dose injectable cephalosporin[5] **PLUS** • Azithromycin 1g po x 1 **or** Doxycycline§ 100mg po BID x 7 d	• Cefpodoxime 400mg po x 1 **or** Cefuroxime axetil 1g po x 1 **or** • Azithromycin 2g po x 1[6]
Pharyngeal Infections	• Ceftriaxone **250mg** IM x 1 **PLUS** • Azithromycin 1g po x 1 **or** Doxycycline§ 100mg po BID x 7 d	
PELVIC INFLAMMATORY DISEASE **Oral regimens** (For parenteral regimens, see www.cdc.gov/std/treatment/2010/)	• Ceftriaxone 250 mg IM x 1 **or** • Cefoxitin 2g IM x 1 with Probenecid 1g po x 1 **PLUS** • Doxycycline§ 100mg po BID x 14 d **with or without** • Metronidazole[7] 500mg po bid x 14 d	• Ofloxacin§,8 400mg po bid x 14 d **or** Levofloxacin§,8 500mg po qd x 14 d **with or without** Metronidazole[7] 500mg po bid x 14 d • Ceftriaxone 250mg IM x 1 **plus** Azithromycin 1g po q week x 2 **with or without** Metronidazole[7] 500mg po bid x 14 d
CERVICITIS[9]	• Azithromycin 1g po x 1 **or** Doxycycline§100mg po bid x 7d	
NONGONOCOCCAL URETHRITIS	• Azithromycin 1g po x 1 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[10]	• Metronidazole 2g po x 1 **or** Tinidazole 2g po x 1 **PLUS** • Azithromycin 1g po x 1 (if not used initially)	
ACUTE EPIDIDYMITIS	Likely due to gonorrhea or chlamydia[11]: • 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[11]: • 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[12]	• Metronidazole 2g po x 1 **or** Tinidazole[13] 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[14] 2%, one full applicator (5g) intra-vaginally qhs x 7 d	• Tinidazole[13] 2g po qd x 2 d **or** Tinidazole[13] 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 250mg tid x 7 d **or** Clindamycin 300mg po bid x 7d	

§ Contraindicated in pregnant and nursing women
1 Annual screening for women aged 25 years or younger. Reinfection is common; retest 3 months after treatment.
2 Test-of-cure (preferably by NAAT) 3-4 weeks after completion of therapy is recommended. Pregnant women also should be retested 3 months after treatment.
3 Annual screening for women at increased risk, e.g. aged 25 years or younger. Reinfection is common; retest 3 months after treatment.
4 For treatment failure or *in vitro* resistance to cephalosporins: Treat with Ceftriaxone 250mg IM (plus azithromycin 1g or doxycycline 100mg bid x 7 d); consult an ID specialist; perform culture and susceptibility studies; ensure partner treatment; and in NYC, report to the DOHMH by calling 212-788-4443. Obtain a test-of-cure 3 weeks after treatment.
5 Ceftizoxime 500mg IM; or cefoxitin 2g IM with probenecid 1g PO; or cefotaxime 500mg IM
6 Due to concerns over emerging antimicrobial resistance, use should be limited to those with severe cephalosporin allergy or history of severe reaction to penicillin.
7 Metronidazole offers additional anaerobic coverage and will treat BV and trichomoniasis, if present.
8 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.
9 Presumptive regimen. Co-treat for gonorrhea if local prevalence is high (>5%). Treat for BV and trichomoniasis, if present.
10 Recommended treatment for patients with persistent symptoms if compliant with initial regimen and re-exposure can be excluded. Consider testing for *T.vaginalis* infection.
11 Among sexually-active men aged <35 yrs, epididymitis is more likely caused by *C. trachomatis* or *N. gonorrheae* . For men who practice insertive anal intercourse or men aged >35 yrs, epididymitis may be caused by enteric organisms.
12 7-day Metronidazole regimen may be more effective in HIV-infected women
13 Safety during pregnancy has not been established (Pregnancy Category C); interruption of breastfeeding is recommended during treatment and for 3 days after last dose.
14 Oil-based; might weaken latex condoms and diaphragms for up to 5 days after use

DISEASE	RECOMMENDED REGIMENS	ALTERNATIVE REGIMENS
ACUTE PROCTITIS[15, 16]	• 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 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.[17]		
Adults (including HIV-Co-infected)[18]		
Primary, Secondary, and Early Latent	• Benzathine penicillin G 2.4 million units IM x1	• Doxycycline[19,§] 100mg po bid x 14 d **or** • Tetracycline[19,§] 500mg po qid x 14 d **or** • Ceftriaxone[19] 1g IM or IV qd x 10-14 d
Late Latent and Latent of Unknown duration[20]	• Benzathine penicillin G 7.2 million units, administered as 3 doses of 2.4 million units IM each, at 1-week intervals[21]	• Doxycycline[19,§] 100mg po bid x 28 d **or** • Tetracycline[19,§] 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[22]	• Procaine penicillin G, 2.4 million units IM qd x 10-14 d **plus** Probenecid 500mg po qid x 10-14 d[22] **or** • Ceftriaxone[19] 2g IM or IV qd x 10-14 d[22]
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[20]	• 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[22]	• Procaine penicillin G, 2.4 million units IM qd x10-14 d **plus** Probenecid 500mg po qid x 10-14 d[22] If PCN allergic, desensitize and treat
DISEASE	**RECOMMENDED REGIMENS**	
ANOGENITAL WARTS (Human Papilloma Virus)		
External Genital/Perianal[23]	**Patient Applied** • Podofilox 0.5% solution/gel[24,25]: apply bid x 3 d followed by 4 d no treatment; use for up to 4 cycles. Total area treated not to exceed 10cm^2 and total volume used $\leq$ 0.5mL per day **or** • Imiquimod 5% cream[24,26]: apply qhs 3x/week for up to 16 weeks; wash off after 6-10 hours **or** • Sinechatechin 15% ointment[24,25,26,27]: apply tid (0.5cm strand of ointment per wart) for a maximum of 16 weeks	**Provider Administered** • Cryotherapy: repeat applications q1-2 weeks **or** • Podophyllin resin§ 10%-25%: apply q1-2 weeks prn; wash off after 1-4 hours. Total area treated not to exceed 10cm^2 and total volume used $\leq$ 0.5mL per day **or** • Trichloroacetic acid (TCA) 80%- 90% **or** Bichloroacetic acid (BCA) 80%- 90%: apply q week prn • Surgery—electrocautery, excision, laser, curretage
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 x1, then 250 mg bid x 2d **or** • Valacyclovir 500mg po bid x 3d or 1g po qd x 5 days
HIV Co-Infected[28]		
	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

15 Examine patients by anoscopy and evaluate for infection with HSV, gonorrhea, chlamydia and syphilis

16 If painful perianal ulcers are present or mucosal ulcers detected on anoscopy, presumptive therapy should include a regimen for genital herpes and LGV.

17 Benzathine penicillin G is available in one 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.

18 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.

19 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.

20 Patients diagnosed with latent syphilis who demonstrate any of the following should have a prompt CSF exam to evaluate for neurosyphilis: 1) neurologic or opthalmic signs or symptoms; 2) evidence of active tertiary syphilis; or 3) serologic or treatment failure.

21 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.

22 Some specialists recommend an additional 2.4 million units of benzathine penicillin G IM qweek for up to 3 weeks after completion of neurosyphilis treatment.

23 Mucosal genital warts (cervical, vaginal, anorectal, urethral meatus) should be managed in consultation with a specialist.

24 Safety profile during pregnancy not established; Pregnancy Category C.

25 Do not wash off after initial application.

26 May weaken condoms and diaphragms.

27 Use is not recommended for HIV-infected or other immunocompromised persons, or those with clinical genital herpes.

28 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.