Sexually Transmitted Diseases

Summary of 2015 CDC Treatment Guidelines

Centers for Disease Control and Prevention
National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

These summary guidelines reflect the June 2015 update to the *2010 CDC Guidelines for Treatment of Sexually Transmitted Diseases.*

This summary is intended as a source of clinical guidance. When more than one therapeutic regimen is recommended the sequence is in alphabetical order unless the choices for therapy are prioritized based on efficacy, cost, or convenience. The recommended regimens should be used primarily; alternative regimens can be considered in instances of substantial drug allergy or other contraindications. An important component of STD treatment is partner management. Providers can arrange for the evaluation and treatment of sex partners either directly or with assistance from state and local health departments.

Complete guidelines can be viewed online at www.cdc.gov/std/treatment.

This booklet has been reviewed by the CDC 6/2015.

★ *Indicates update from the 2010 CDC Guidelines for the Treatment of Sexually Transmitted Diseases.*

Bacterial Vaginosis

Cervicitis

Chlamydial Infections

Epididymitis

Genital Herpes Simplex

Genital Warts (Human Papillomavirus)

Gonococcal Infections

Lymphogranuloma venereum

Non-Gonococcal Urethritis (NGU)

Pediculosis Pubis

Pelvic Inflammatory Disease

Scabies

Syphilis

Trichomoniasis

Bacterial Vaginosis

Recommended Rx		Dose/Route	Alternatives	
metronidazole oral[1]	OR	500 mg orally 2x/day for 7 days	tinidazole 2 g orally 1x/day for 2 days	OR
			tinidazole 1 g orally 1x/day for 5 days	OR
metronidazole gel 0.75%[1]	OR	One 5 g applicator intravaginally 1x/day for 5 days	clindamycin 300 mg orally 2x/day for 7 days	OR
clindamycin cream 2%[1,2]		One 5 g applicator intravaginally at bedtime for 7 days	clindamycin ovules 100 mg intravaginally at bedtime for 3 days	

★ Treatment is recommended for all symptomatic pregnant women.

Cervicitis

Recommended Rx		Dose/Route	Alternatives
azithromycin	OR	1 g orally in a single dose	
doxycycline[3]		100 mg orally 2x/day for 7 days	

Consider concurrent treatment for gonococcal infection if at risk of gonorrhea or lives in a community where the prevalence of gonorrhea is high. Presumptive treatment with antimicrobials for *C. trachomatis* and *N. gonorrhoeae* should be provided for women at increased risk (e.g., those aged <25 years and those with a new sex partner, a sex partner with concurrent partners, or a sex partner who has a sexually transmitted infection), especially if follow-up cannot be ensured or if NAAT testing is not possible.

Chlamydial Infections

	Recommended Rx		Dose/Route	Alternatives	
Adults and adolescents	azithromycin doxycycline[4]	OR	1 g orally in a single dose 100 mg orally 2x/day for 7 days	erythromycin base[5] 500 mg orally 4x/day for 7 days erythromycin ethylsuccinate[6] 800 mg orally 4x/day for 7 days levofloxacin[7] 500 mg 1x/day orally for 7 days ofloxacin[9] 300 mg orally 2x/day for 7 days	OR OR OR
Pregnancy[3]	azithromycin[8]		1 g orally in a single dose	★ amoxicillin 500 mg orally 3x/day for 7 days erythromycin base[5,9] 500 mg orally 4x/day for 7 days erythromycin base 250 mg orally 4x/day for 14 days erythromycin ethylsuccinate 800 mg orally 4x/day for 7 days erythromycin ethylsuccinate 400 mg orally 4x/day for 14 days	OR OR OR OR
Infants and Children (<45 kg): urogenital, rectal	erythromycin base[10] ethylsuccinate	OR	50 mg/kg/day orally (4 divided doses) daily for 14 days	★ Data are limited on the effectiveness and optimal dose of azithromycin for chlamydial infection in infants and children < 45 kg	
Neonates: opthalmia neonatorum, pneumonia	erythromycin base[10] ethylsuccinate	OR	50 mg/kg/day orally (4 divided doses) daily for 14 days	★ azithromycin 20 mg/kg/day orally, 1 dose daily for 3 days	

Epididymitis[11,12]

	Recommended Rx		Dose/Route	Alternatives
For acute epididymitis most likely caused by sexually transmitted CT and GC	ceftriaxone doxycycline	PLUS	250 mg IM in a single dose 100 mg orally 2x/day for 10 days	
★ For acute epididymitis most likely caused by sexually-transmitted chlamydia and gonorrhea and enteric organisms (men who practice insertive anal sex)	ceftriaxone levofloxacin ofloxacin	PLUS OR	250 mg IM in a single dose 500 mg orally 1x/day for 10 days 300 mg orally 2x/day for 10 days	
For acute epididymitis most likely caused by enteric organisms	levofloxacin ofloxacin	OR	500 mg orally 1x/day for 10 days 300 mg orally 2x/day for 10 days	

Genital Herpes Simplex

	Recommended Rx		Dose/Route	Alternatives
First clinical episode of genital herpes	acyclovir	OR	400 mg orally 3x/day for 7-10 days[14]	
	acyclovir	OR	200 mg orally 5x/day for 7-10 days[14]	
	valacyclovir[13]	OR	1 g orally 2x/day for 7-10 days[14]	
	famciclovir[13]		250 mg orally 3x/day for 7-10 days[14]	
Episodic therapy for recurrent genital herpes	acyclovir	OR	400 mg orally 3x/day for 5 days	
	acyclovir	OR	800 mg orally 2x/day for 5 days	
	acyclovir	OR	800 mg orally 3x/day for 2 days	
	valacyclovir[13]	OR	500 mg orally 2x/day for 3 days	
	valacyclovir[13]	OR	1 g orally 1x/day for 5 days	
	famciclovir[13]	OR	125 mg orally 2x/day for 5 days	
	famciclovir[13]	OR	1000 mg orally 2x/day for 1 day[14]	
	famciclovir[13]		500 mg orally once, followed by 250 mg 2x/day for 2 days	
Suppressive therapy[15] for recurrent genital herpes	acyclovir	OR	400 mg orally 2x/day	
	valacyclovir[13]	OR	500 mg orally once a day	
	valacyclovir[13]	OR	1 g orally once a day	
	famciclovir[13]		250 mg orally 2x/day	
Recommended regimens for episodic infection in persons with HIV infection	acyclovir	OR	400 mg orally 3x/day for 5-10 days	
	valacyclovir[13]	OR	1 g orally 2x/day for 5-10 days	
	famciclovir[13]		500 mg orally 2x/day for 5-10 days	
Recommended regimens for daily suppressive therapy in persons with HIV infection	acyclovir	OR	400-800 mg orally 2-3x/day	
	valacyclovir[13]	OR	500 mg orally 2x/day	
	famciclovir[13]		500 mg orally 2x/day	

Genital Warts *(Human Papillomavirus)*[16]

	Recommended Rx		Dose/Route	Alternatives	
External genital and perianal warts	**Patient Applied** ★ imiquimod 3.75% or 5%[13] cream	OR	See complete CDC guidelines.		
	podofilox 0.5%[13] solution or gel	OR			
	sinecatechins 15% ointment[2,13]				
	Provider Administered Cryotherapy	OR	Apply small amount, dry, apply weekly if necessary	★ podophyllin resin 10%–25% in compound tincture of benzoin may be considered for provider-administered treatment if strict adherence to the recommendations for application.	OR
	trichloroacetic acid or bichloroacetic acid 80%-90%	OR		intralesional interferon	OR
	surgical removal			photodynamic therapy	OR
				topical cidofovir	

Gonococcal Infections[17]

	Recommended Rx		Dose/Route	Alternatives	
Adults, adolescents: uncomplicated gonococcal infections of the cervix, urethra, and rectum	ceftriaxone	PLUS	250 mg IM in a single dose	★ If ceftriaxone is not available: cefixime 400 mg orally in a single dose	PLUS
	azithromycin[10]		1 g orally in a single dose	azithromycin[8] 1 g orally in a single dose	
				★ If cephalosporin allergy: gemifloxacin 320 mg orally in a single dose	PLUS
				azithromycin 2 g orally in a single dose	OR
				gentamicin 240 mg IM single dose	PLUS
				azithromycin 2 g orally in a single dose	
Pharyngeal	ceftriaxone	PLUS	250 mg IM in a single dose		
	azithromycin[10]		1 g orally in a single dose		
Pregnancy[3]	See complete CDC guidelines.				
Adults and adolescents: conjunctivitis	ceftriaxone	PLUS	1 g IM in a single dose		
	azithromycin[10]		1 g orally in a single dose		
Children (≤45 kg): urogenital, rectal, pharyngeal	ceftriaxone[18]		25-50 mg/kg IV or IM, not to exceed 125 mg IM in a single dose		

Lymphogranuloma venereum

	Recommended Rx	Dose/Route	Alternatives
	doxycycline[4]	100 mg orally 2x/day for 21 days	erythromycin base 500 mg orally 4x/day for 21 days

Nongonococcal Urethritis (NGU)

	Recommended Rx		Dose/Route	Alternatives
	azithromycin[8]	OR	1 g orally in a single dose	erythromycin base[5] 500 mg orally 4x/day for 7 days OR
	doxycycline[4]		100 mg orally 2x/day for 7 days	erythromycin ethylsuccinate[6] 800 mg orally 4x/day for 7 days OR
				levofloxacin 500 mg 1x/day for 7 days OR
				ofloxacin 300 mg 2x/day for 7 days
★ Persistent and recurrent NGU[3,19,20]	Men initially treated with doxycycline:			
	azithromycin		1 g orally in a single dose	
	Men who fail a regimen of azithromycin:			
	moxifloxacin		400 mg orally 1x/day for 7 days	
	Heterosexual men who live in areas where *T. vaginalis* is highly prevalent:			
	metronidazole[21]	OR	2 g orally in a single dose	
	tinidazole		2 g orally in a single dose	

Pediculosis Pubis

Recommended Rx		Dose/Route	Alternatives	
permethrin 1% cream rinse	OR	Apply to affected area, wash off after 10 minutes	malathion 0.5% lotion, applied 8-12 hrs then washed off	OR
pyrethrins with piperonyl butoxide		Apply to affected area, wash off after 10 minutes	ivermectin 250 µg/kg orally, repeated in 2 weeks	

Pelvic Inflammatory Disease[11]

Recommended Rx		Dose/Route	Alternatives	
Parenteral Regimens			**Parenteral Regimen**	
Cefotetan	PLUS	2 g IV every 12 hours	Ampicillin/Sulbactam 3 g IV every 6 hours	PLUS
Doxycycline	OR	100 mg orally or IV every 12 hours		
Cefoxitin	PLUS	2 g IV every 6 hours	Doxycycline 100 mg orally or IV every 12 hours	
Doxycycline		100 mg orally or IV every 12 hours		
Recommended Intramuscular/Oral Regimens				
Ceftriaxone	PLUS	250 mg IM in a single dose		
Doxycycline	WITH or WITHOUT	100 mg orally twice a day for 14 days		
Metronidazole	OR	500 mg orally twice a day for 14 days		
Cefoxitin	PLUS	2 g IM in a single dose		
Probenecid	PLUS	1 g orally administered concurrently in a single dose		
Doxycycline	WITH or WITHOUT	100 mg orally twice a day for 14 days		
Metronidazole		500 mg orally twice a day for 14 days		

The complete list of recommended regimens can be found in CDC's 2015 STD Treatment Guidelines.

Scabies

Recommended Rx	Dose/Route	Alternatives
permethrin 5% cream OR	Apply to all areas of body from neck down, wash off after 8-14 hours	lindane 1%[22,23] 1 oz. of lotion or 30 g of cream, applied thinly to all areas of the body from the neck down, wash off after 8 hours
ivermectin	200 µg/kg orally, repeated in 2 weeks	

Syphilis

	Recommended Rx	Dose/Route	Alternatives
Primary, secondary, or early latent <1 year	benzathine penicillin G	2.4 million units IM in a single dose	doxycycline[6,24] 100 mg 2x/day for 14 days OR tetracycline[6,25] 500 mg orally 4x/day for 14 days
Latent >1 year, latent of unknown duration	benzathine penicillin G	2.4 million units IM in 3 doses each at 1 week intervals (7.2 million units total)	doxycycline[6,24] 100 mg 2x/day for 28 days OR tetracycline[6,24] 500 mg orally 4x/day for 28 days
Pregnancy[3]	See complete CDC guidelines.		
Neurosyphilis	aqueous crystalline penicillin G	18–24 million units per day, administered as 3–4 million units IV every 4 hours or continuous infusion, for 10–14 days	procaine penicillin G 2.4 MU IM 1x daily PLUS probenecid 500 mg orally 4x/day, both for 10-14 days.
★ Congenital syphilis	See complete CDC guidelines.		
Children: Primary, secondary, or early latent <1 year	benzathine penicillin G	50,000 units/kg IM in a single dose (maximum 2.4 million units)	
Children: Latent >1 year, latent of unknown duration	benzathine penicillin G	50,000 units/kg IM for 3 doses at 1 week intervals (maximum total 7.2 million units)	

See CDC STD Treatment guidelines for discussion of alternative therapy in patients with penicillin allergy.

Trichomoniasis

	Recommended Rx		Dose/Route	Alternatives
	metronidazole[21]	OR	2 g orally in a single dose	metronidazole[21] 500 mg 2x/day for 7 days
	tinidazole[25]		2 g orally in a single dose	
Persistent or recurrent trichomoniasis	metronidazole		500mg orally 2x/day for 7 days	
	If this regimen fails:			
	metronidazole	OR	2g orally 2x/day for 7 days	
	tinidazole		2g orally 2x/day for 7 days	
	If this regimen fails, susceptibility testing is recommended.			

Notes

1. The recommended regimens are equally efficacious.
2. These creams are oil-based and may weaken latex condoms and diaphragms. Refer to product labeling for further information.
3. Please refer to the complete 2015 CDC Guidelines for recommended regimens.
4. Should not be administered during pregnancy, lactation, or to children <8 years of age.
5. If patient cannot tolerate high-dose erythromycin base schedules, change to 250 mg 4x/day for 14 days.
6. If patient cannot tolerate high-dose erythromycin ethylsuccinate schedules, change to 400 mg orally 4 times a day for 14 days.
7. Contraindicated for pregnant or lactating women.
8. Clinical experience and published studies suggest that azithromycin is safe and effective.
9. Erythromycin estolate is contraindicated during pregnancy.
10. Effectiveness of erythromycin treatment is approximately 80%; a second course of therapy may be required.
11. Patients who do not respond to therapy (within 72 hours) should be re-evaluated.
12. For patients with suspected sexually transmitted epididymitis, close follow-up is essential.
13. No definitive information available on prenatal exposure.
14. Treatment may be extended if healing is incomplete after 10 days of therapy.

★ Indicates update from the 2010 CDC Guidelines for the Treatment of Sexually Transmitted Diseases.

Notes

Notes (continued)

15. Consider discontinuation of treatment after one year to assess frequency of recurrence.
16. Vaginal, cervical, urethral meatal, and anal warts may require referral to an appropriate specialist.
17. CDC recommends that treatment for uncomplicated gonococcal infections of the cervix, urethra, and/or rectum should include dual therapy, i.e. both a cephalosporin (e.g. ceftriaxone) plus azithromycin.
18. CDC recommends that cefixime in combination with azithromycin or doxycycline be used as an alternative when ceftriaxone is not available.
19. Only ceftriaxone is recommended for the treatment of pharyngeal infection. Providers should inquire about oral sexual exposure
20. Moxifloxacin 400mg orally 1x/day for 7 days is effective against *Mycoplasma genitalium*.
21. Pregnant patients can be treated with 2 g single dose.
22. Contraindicated for pregnant or lactating women, or children <2 years of age.
23. Do not use after a bath; should not be used by persons who have extensive dermatitis.
24. Pregnant patients allergic to penicillin should be treated with penicillin after desensitization.
25. Randomized controlled trials comparing single 2 g doses of metronidazole and tinidazole suggest that tinidazole is equivalent to, or superior to, metronidazole in achieving parasitologic cure and resolution of symptoms.

★ Indicates update from the 2010 CDC Guidelines for the Treatment of Sexually Transmitted Diseases.

CS253348