Sexually Transmitted Diseases: Summary of 2015 CDC Treatment Guidelines

These summary guidelines reflect the 2015 CDC Guidelines for the Treatment of Sexually Transmitted Diseases. They are intended as a source of clinical guidance. 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 ordered online at www.cdc.gov/std/treatment or by calling 1 (800) CDC-INFO (1-800-232-4636).

DISEASE	RECOMMENDED Rx		DOSE/ROUTE	ALTERNATIVES
Bacterial Vaginosis	metronidazole oral[1] metronidazole gel 0.75%[1] clindamycin cream 2%[1,2] ★ Treatment is recommended for all symptomatic pregnant women.	OR OR	500 mg orally 2x/day for 7 days One 5 g applicator intravaginally 1x/day for 5 days One 5 g applicator intravaginally at bedtime for 7 days	tinidazole 2 g orally 1x/day for 2 days OR tinidazole 1 g orally 1x/day for 5 days OR clindamycin 300 mg orally 2x/day for 7 days OR clindamycin ovules 100 mg intravaginally at bedtime for 3 days
Cervicitis	azithromycin doxycycline[3]	OR	1 g orally in a single dose 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 Adults and adolescents	azithromycin doxycycline[3]	OR	1 g orally in a single dose 100 mg orally 2x/day for 7 days	erythromycin base[4] 500 mg orally 4x/day for 7 days OR erythromycin ethylsuccinate[5] 800 mg orally 4x/day for 7 days OR levofloxacin[6] 500 mg 1x/day orally for 7 days OR ofloxacin[6] 300 mg orally 2x/day for 7 days
Pregnancy[3]	azithromycin[7]		1 g orally in a single dose	★ amoxicillin 500 mg orally 3x/day for 7 days OR erythromycin base[4,8] 500 mg orally 4x/day for 7 days OR erythromycin base 250 mg orally 4x/day for 14 days OR erythromycin ethylsuccinate 800 mg orally 4x/day for 7 days OR erythromycin ethylsuccinate 400 mg orally 4x/day for 14 days
Infants and Children (<45 kg): urogenital, rectal	erythromycin base[9] 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[9] 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[10,11]				
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				
First clinical episode of genital herpes	acyclovir acyclovir valacyclovir[12] famciclovir[12]	OR OR OR	400 mg orally 3x/day for 7-10 days[13] 200 mg orally 5x/day for 7-10 days[13] 1 g orally 2x/day for 7-10 days[13] 250 mg orally 3x/day for 7-10 days[13]	
Episodic therapy for recurrent genital herpes	acyclovir acyclovir acyclovir valacyclovir[12] valacyclovir[12] famciclovir[12] famciclovir[12] famciclovir[12]	OR OR OR OR OR OR OR	400 mg orally 3x/day for 5 days 800 mg orally 2x/day for 5 days 800 mg orally 3x/day for 2 days 500 mg orally 2x/day for 3 days 1 g orally 1x/day for 5 days 125 mg orally 2x/day for 5 days 1000 mg orally 2x/day for 1 day[13] 500 mg orally once, followed by 250 mg 2x/day for 2 days	
Suppressive therapy[14] for recurrent genital herpes	acyclovir valacyclovir[12] valacyclovir[12] famciclovir[12]	OR OR OR	400 mg orally 2x/day 500 mg orally 1x/day 1 g orally once a day 250 mg orally 2x/day	
Recommended regimens for episodic infection in persons with HIV infection	acyclovir valacyclovir[12] famciclovir[12]	OR OR	400 mg orally 3x/day for 5-10 days 1 g orally 2x/day for 5-10 days 500 mg orally 2x/day for 5-10 days	
Recommended regimens for daily suppressive therapy in persons with HIV infection	acyclovir valacyclovir[12] famciclovir[12]	OR OR	400-800 mg orally 2-3x/day 500 mg orally 2x/day 500 mg orally 2x/day	
Genital Warts[15] (Human Papillomavirus) External genital and perianal warts	**Patient Applied** ★ imiquimod 3.75% or 5%[12] cream podofilox 0.5%[15] solution or gel sinecatechins 15% ointment[2,12]	OR OR	See complete CDC guidelines.	
	Provider Administered Cryotherapy trichloroacetic acid or bichloroacetic acid 80%-90% surgical removal	OR 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 intralesional interferon OR photodynamic therapy OR topical cidofovir OR
Gonococcal Infections[16] Adults, adolescents, and children >45 kg: uncomplicated gonococcal infections of the cervix, urethra, and rectum	ceftriaxone azithromycin[7]	PLUS	250 mg IM in a single dose 1 g orally in a single dose	★ If ceftriaxone is not available: cefixime[17] 400 mg orally in a single dose PLUS azithromycin[7] 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[18]	ceftriaxone azithromycin[7]	PLUS	250 mg IM in a single dose 1 g orally in a single dose	
Pregnancy	See complete CDC guidelines.			
Adults and adolescents: conjunctivitis	ceftriaxone azithromycin[7]	PLUS	1 g IM in a single dose 1 g orally in a single dose	
Children (≤45 kg): urogenital, rectal, pharyngeal	ceftriaxone[19]		25-50 mg/kg IV or IM, not to exceed 125 mg IM in a single dose	
Lymphogranuloma venereum	doxycycline[3]		100 mg orally 2x/day for 21 days	erythromycin base 500 mg orally 4x/day for 21 days
Nongonococcal Urethritis *(NGU)*	azithromycin[7] doxycycline[3]	OR	1 g orally in a single dose 100 mg orally 2x/day for 7 days	erythromycin base[4] 500 mg orally 4x/day for 7 days OR erythromycin ethylsuccinate[5] 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[3,20,21]	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[22] tinidazole	OR	2 g orally in a single dose 2 g orally in a single dose	
Pediculosis Pubis	permethrin 1% cream rinse pyrethrins with piperonyl butoxide	OR	Apply to affected area, wash off after 10 minutes Apply to affected area, wash off after 10 minutes	malathion 0.5% lotion, applied 8-12 hrs then washed off OR ivermectin 250 µg/kg, orally repeated in 2 weeks
Pelvic Inflammatory Disease[10]	**Parenteral Regimens** Cefotetan Doxycycline	PLUS OR	2 g IV every 12 hours 100 mg orally or IV every 12 hours	**Parenteral Regimen** Ampicillin/Sulbactam 3 g IV every 6 hours PLUS Doxycycline 100 mg orally or IV every 12 hours
	Cefoxitin Doxycycline	PLUS	2 g IV every 6 hours 100 mg orally or IV every 12 hours	
	Recommended Intramuscular/Oral Regimens Ceftriaxone Doxycycline Metronidazole OR Cefoxitin Probenecid, Doxycycline Metronidazole	PLUS WITH or WITHOUT PLUS PLUS WITH or WITHOUT	250 mg IM in a single dose 100 mg orally twice a day for 14 days 500 mg orally twice a day for 14 days 2 g IM in a single dose 1 g orally administered concurrently in a single dose 100 mg orally twice a day for 14 days 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	permethrin 5% cream ivermectin	OR	Apply to all areas of body from neck down, wash off after 8-14 hours 200 µg/kg orally, repeated in 2 weeks	lindane 1%[23,24] 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
Syphilis Primary, secondary, or early latent <1 year	benzathine penicillin G		2.4 million units IM in a single dose	doxycycline[3,25] 100 mg 2x/day for 14 days OR tetracycline[3,25] 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[3,25] 100 mg 2x/day for 28 days OR tetracycline[3,25] 500 mg orally 4x/day for 28 days
Pregnancy	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.			See CDC STD Treatment guidelines for discussion of alternative therapy in patients with penicillin allergy.
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)	
Trichomoniasis	metronidazole[22] tinidazole[26]	OR	2 g orally in a single dose 2 g orally in a single dose	metronidazole[22] 500 mg 2x/day for 7 days
Persistent or recurrent trichomoniasis	metronidazole		500mg orally 2x/day for 7 days	
	If this regimen fails: metronidazole tinidazole	OR	2g orally for 7 days 2g orally for 7 days	
	If this regimen fails, susceptibility testing is recommended.			

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. Should not be administered during pregnancy, lactation, or to children <8 years of age.
4. If patient cannot tolerate high-dose erythromycin base schedules, change to 250 mg 4x/day for 14 days.
5. If patient cannot tolerate high-dose erythromycin ethylsuccinate schedules, change to 400 mg orally 4 times a day for 14 days.
6. Contraindicated for pregnant or lactating women.
7. Clinical experience and published studies suggest that azithromycin is safe and effective.
8. Erythromycin estolate is contraindicated during pregnancy.
9. Effectiveness of erythromycin treatment is approximately 80%; a second course of therapy may be required.
10. Patients who do not respond to therapy (within 72 hours) should be re-evaluated.
11. For patients with suspected sexually transmitted epididymitis, close follow-up is essential.
12. No definitive information available on prenatal exposure.
13. Treatment may be extended if healing is incomplete after 10 days of therapy.
14. Consider discontinuation of treatment after one year to assess frequency of recurrence.
15. Vaginal, cervical, urethral meatal, and anal warts may require referral to an appropriate specialist.
16. 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.
17. CDC recommends that cefixime in combination with azithromycin or doxycycline be used as an alternative when ceftriaxone is not available.
18. Only ceftriaxone is recommended for the treatment of pharyngeal infection. Providers should inquire about oral sexual exposure
19. Use with caution in hyperbilirubinemic infants, especially those born prematurely.
20. MSM are unlikely to benefit from the addition of nitroimidazoles.
21. Moxifloxacin 400mg orally 1x/day for 7 days is effective against *Mycoplasma genitalium.*
22. Pregnant patients can be treated with 2 g single dose.
23. Contraindicated for pregnant or lactating women, or children <2 years of age.
24. Do not use after a bath; should not be used by persons who have extensive dermatitis.
25. Pregnant patients allergic to penicillin should be treated with penicillin after desensitization.
26. 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.

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