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Sexually Transmitted Diseases (STD) Treatment Guidelines

RECOMMENDED TREATMENT FOR STDs IN HIV-INFECTED ADULTS

This table reflects the 2006 CDC STD Treatment Guidelines (and subsequent revisions) and focuses on STDs encountered among HIV-infected adults in an outpatient setting. For more complete information, refer to <http://www.cdc.gov/std> or call the local STD Program. Clinical and epidemiological services are available through your state or local STD Program. Staff is also available to assist providers with confidential notification of sexual partners of patients infected with STDs and HIV.

DISEASE	DIAGNOSTIC TEST	RECOMMENDED TREATMENT	ALTERNATIVES
SYPHILIS (see CDC guidelines for follow-up recommendations)			
PRIMARY, SECONDARY OR EARLY LATENT (< 1 YEAR)	<ul style="list-style-type: none"> Darkfield exam or direct fluorescent antibody test (DFA) of non-oral lesion material or exudates if available RPR (or VDRL) test with confirmatory test if positive (e.g. FTA-ABS or TP-PA) 	<ul style="list-style-type: none"> Benzathine penicillin G 2.4 million units IM Some experts recommend 2.4 million units IM for 3 doses, given 1 week apart (total 7.2 million units) 	<p>(For penicillin allergic non-pregnant adult patients only)</p> <ul style="list-style-type: none"> Doxycycline 100 mg orally 2 times a day for 14 days OR ceftriaxone 1 g daily IV or IM for 8-10 days
LATE LATENT (> 1 YEAR) OR LATENT OF UNKNOWN DURATION	<ul style="list-style-type: none"> RPR (or VDRL) test with confirmatory test if positive (e.g. FTA-ABS or TP-PA) 	<ul style="list-style-type: none"> Perform lumbar puncture for CSF examination before treatment; if negative: Benzathine penicillin G 2.4 million units IM for 3 doses, 1 week apart (total 7.2 million units) 	<ul style="list-style-type: none"> Doxycycline 100 mg orally 2 times a day for 28 days for adults only
NEUROSYPHILIS	<ul style="list-style-type: none"> Lumbar Puncture 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Procaine penicillin 2.4 million units IM once daily plus probenecid 500 mg orally 4 times a day, both for 10-14 days
PREGNANCY	<ul style="list-style-type: none"> As above according to stage 	<p>Penicillin is the <u>only</u> recommended treatment for syphilis during pregnancy. Women who are allergic should be desensitized and then treated with penicillin. Dosages are the same as in non-pregnant patients for each stage of syphilis¹</p>	
GONOCOCCAL INFECTIONS²			
ADULTS CERVIX, URETHRA, RECTUM PHARYNX	<ul style="list-style-type: none"> Cervix/urethra: Culture or Nucleic Acid Amplification Test (NAAT) Rectum/pharynx: Culture (NAAT not FDA approved for these sites) 	<ul style="list-style-type: none"> As of April 2007, fluoroquinolones are no longer recommended for any patients for treatment of gonococcal infection in the U.S. Ceftriaxone 125 mg IM once. (Highly effective at all anatomical sites) Alternative single dose oral regimens include cefixime 400 mg PO (not recommended by CDC for pharyngeal GC) and cefepodoxime 400 mg (recommended in some states, large-scale efficacy studies underway). 	<p>If allergy:</p> <ul style="list-style-type: none"> Spectinomycin 2 g IM once (currently not available in the U.S.) <p>The above regimen is not effective to treat pharyngeal gonorrhea.</p> <ul style="list-style-type: none"> Azithromycin 2 g orally single dose³ <p>Preferred alternative for the treatment of pharyngeal gonorrhea</p>
CONJUNCTIVA	<ul style="list-style-type: none"> Culture 	<ul style="list-style-type: none"> Ceftriaxone 1 g IM once plus lavage the infected eye with saline solution once 	
PREGNANCY	<ul style="list-style-type: none"> Culture or NAAT 	<ul style="list-style-type: none"> Ceftriaxone 125 mg IM once 	<ul style="list-style-type: none"> Spectinomycin 2 g IM once (currently not available in the U.S.) OR Azithromycin 2 g orally single dose³
CHLAMYDIAL INFECTIONS			
ADULT	<ul style="list-style-type: none"> Cervix/urethra: Culture or NAAT Rectum/Pharynx: Culture 	<ul style="list-style-type: none"> Azithromycin 1 g orally single dose OR Doxycycline 100 mg orally 2 times a day for 7 days 	<ul style="list-style-type: none"> Erythromycin base 500 mg⁴ orally 4 times a day for 7 days OR Erythromycin ethylsuccinate 800 mg⁴ orally 4 times a day for 7 days OR Ofloxacin⁵ 300 mg orally 2 times a day for 7 days OR Levofloxacin⁵ 500 mg orally once a day for 7 days
PREGNANCY	<ul style="list-style-type: none"> As above 	<ul style="list-style-type: none"> Azithromycin 1 g orally single dose OR Amoxicillin 500 mg orally 3 times a day for 7 days 	<ul style="list-style-type: none"> Erythromycin base 500 mg⁴ orally 4 times a day for 7 days Erythromycin 250 mg orally 4 times a day for 14 days OR Erythromycin ethylsuccinate 800 mg⁴ orally 4 times a day for 7 days OR Erythromycin ethylsuccinate 400 mg 4 times a day for 14 days
LYMPHOGRANULOMA VENEREUM (LGV)		<ul style="list-style-type: none"> Doxycycline 100 mg orally 2 times a day for 21 days 	Erythromycin base 500 mg orally 4 times a day for 21 days
NONGONOCOCCAL URETHRITIS	<ul style="list-style-type: none"> Confirm urethritis and test for gonorrhea and chlamydia 	<ul style="list-style-type: none"> Azithromycin 1 g orally single dose OR Doxycycline 100 mg orally 2 times a day x 7 days 	<ul style="list-style-type: none"> Erythromycin base 500 mg⁴ orally 4 times a day for 7 days OR Erythromycin ethylsuccinate 800 mg⁴ orally 4 times a day for 7 days OR Ofloxacin 300 mg orally 2 times a day for 7 days OR Levofloxacin 500 mg orally once a day for 7 days
EPIDIDYMITIS⁶	<ul style="list-style-type: none"> Test for gonorrhea and chlamydia 	<ul style="list-style-type: none"> Ceftriaxone 250 mg IM single dose PLUS Doxycycline 100 mg orally 2 times a day for 10 days 	<ul style="list-style-type: none"> Ofloxacin 300 mg orally twice daily for 10 days OR Levofloxacin 500 mg orally once a day for 10 days
PELVIC INFLAMMATORY DISEASE⁷ (outpatient management)	<ul style="list-style-type: none"> Test for gonorrhea and chlamydia 	<p>EITHER:</p> <ul style="list-style-type: none"> Ceftriaxone 250 mg IM once OR Cefoxitin 2 g IM once plus probenecid 1 g orally single dose OR Other third generation cephalosporin <p>PLUS</p> <ul style="list-style-type: none"> Doxycycline 100 mg orally 2 times a day for 14 days <p>PLUS</p> <ul style="list-style-type: none"> Metronidazole 500 mg orally twice a day for 14 days if BV is present or cannot be ruled out. 	<ul style="list-style-type: none"> Ofloxacin⁵ 400 mg orally 2 times a day for 14 days OR Levofloxacin⁵ 500 mg orally once a day for 14 days <p>PLUS</p> <p>Metronidazole 500 mg orally twice a day for 14 days if BV is present or cannot be ruled out.</p>
PREGNANCY AND PID	As above	Patients should be hospitalized and treated with the appropriate recommended parenteral IV treatments (see CDC guidelines)	

DISEASE	DIAGNOSTIC TEST	RECOMMENDED TREATMENT	ALTERNATIVES		
CHANCROID	<ul style="list-style-type: none"> Culture of lesion 	<ul style="list-style-type: none"> Azithromycin 1 g orally single dose OR Ceftriaxone 250 mg IM single dose OR Ciprofloxacin⁵ 500 mg orally 2 times a day for 3 days OR Erythromycin base 500 mg orally 3 times a day for 7 days (preferred by some experts if HIV infection is present) 			
HERPES SIMPLEX VIRUS (for non-pregnant adults). See CDC 2002 guidelines for the management of herpes in pregnancy					
First clinical episode of genital HSV (No clinical studies to differentiate therapeutic response between HIV infected and non-infected patients)	<ul style="list-style-type: none"> Culture or DFA of lesion 	<ul style="list-style-type: none"> Acyclovir 400 mg orally 3 times a day for 7-10 days OR Valacyclovir 1 g orally 2 times a day for 7-10 days OR Famciclovir 250 mg orally 3 times a day for 7-10 days 	<i>For severe cases,</i> Acyclovir 5-10 mg/kg IV every 8 hours until healed		
Daily Suppressive therapy	<ul style="list-style-type: none"> As above 	<ul style="list-style-type: none"> Acyclovir 400–800 mg orally 2 times a day / or 3 times a day OR Valacyclovir 500 mg orally 2 times a day OR Famciclovir 500 mg orally 2 times a day 			
Episodic Recurrent Infection	<ul style="list-style-type: none"> Culture or DFA of lesions Serologic type-specific G-based assays may be useful with healing lesions or in confirming a clinical diagnosis 	<ul style="list-style-type: none"> Acyclovir 400 mg orally 3 times a day for 5-10 days OR Famciclovir 500 mg orally 2 times a day for 5-10 days OR Valacyclovir 1 g orally 2 times a day for 5-10 days 			
PEDICULOSIS PUBIS	<ul style="list-style-type: none"> Clinical evidence of <i>Phthirus pubis</i> or their nits on visual or microscopic exam 	<ul style="list-style-type: none"> Permethrin 1% cream rinse applied to affected area and washed off after 10 minutes OR Lindane⁸ 1% shampoo applied for 4 minutes to the affected area then thoroughly washed off OR Pyrethrins with piperonyl butoxide applied to affected area and washed off after 10 minutes 			
SCABIES	<ul style="list-style-type: none"> Clinical features (burrows) and/or demonstration of the sarcoptes mite or eggs on microscopic exam of skin scrapings 	<ul style="list-style-type: none"> Permethrin 5% cream applied to all areas of the body from the neck down and washed off after 8-14 hours 	<ul style="list-style-type: none"> Lindane⁸ 1% 1 oz of lotion or 30 g of cream applied thinly to all areas of the body and thoroughly washed off after 8 hours OR Ivermectin⁹ 200ug/kg orally, repeated in 2 weeks 		
BACTERIAL VAGINOSIS (BV)	<ul style="list-style-type: none"> Amsel's Criteria on Saline Wet Prep of vaginal secretion Nugent's Gram Stain Criteria Various point-of-care tests 	<ul style="list-style-type: none"> Metronidazole⁹ 500 mg orally 2 times a day for 7 days OR Clindamycin cream 2% intravag. at bedtime for 7 days OR Metronidazole gel 0.75% intravag. once a day for 5 days 	<ul style="list-style-type: none"> Clindamycin 300 mg orally 2 times a day for 7 days OR Clindamycin ovules 100 mg intravag. at bedtime for 3 days 		
PREGNANCY AND BV¹⁰	<ul style="list-style-type: none"> As above 	<ul style="list-style-type: none"> Metronidazole⁹ 500 mg orally 2 times a day for 7 days OR Metronidazole⁹ 250 mg orally 3 times a day for 7 days OR Clindamycin 300 mg orally 2 times a day for 7 days 			
TRICHOMONIASIS	<ul style="list-style-type: none"> Vaginal fluid: Saline Wet Prep of vaginal secretion or Culture Point-of-care test 	<ul style="list-style-type: none"> Metronidazole⁹ 2 g orally single dose Tinidazole¹¹ 2 g orally single dose 	<ul style="list-style-type: none"> Metronidazole⁹ 500 mg orally 2 times a day for 7 days 		
HUMAN PAPILLOMAVIRUS (HPV) VISIBLE WARTS					
<p>External</p> <p>• PROVIDER-ADMINISTERED</p> <p>Cryotherapy with liquid nitrogen or cryoprobe. Repeat applications every 1-2 weeks if necessary OR</p> <p>Trichloroacetic acid (TCA) or bichloroacetic acid (BCA) 80% -90%. Apply small amount only to warts. Allow to dry. If excess amount applied, powder with talc, baking soda or liquid soap. Repeat weekly if necessary OR</p> <p>Podophyllin resin 10%-25%¹² in a compound tincture of benzoin. Allow to air dry. Limit application to < 10 cm² and to ≤ 0.5 ml. Wash off 1-4 hours after application. Repeat weekly if necessary OR</p> <p>Surgical Removal</p> <p>• PATIENT-APPLIED</p> <p>Podofilox 0.5% solution or gel¹². Apply 2 times a day for 3 days, followed by 4 days of no therapy. This cycle can be repeated as necessary for up to 4 times. Total wart area should not exceed 10 cm² and total volume applied daily not to exceed 0.5 ml.</p> <p>OR</p> <p>Imiquimod 5% cream¹². Apply once daily at bedtime 3 times a week for up to 16 weeks. Wash treatment area with soap and water 6-10 hours after application.</p>		<p>Urethral Meatus</p> <ul style="list-style-type: none"> Cryotherapy with liquid nitrogen <p>OR</p> <ul style="list-style-type: none"> Podophyllin 10%-25%¹² in a compound tincture of benzoin. Treatment area must be dry before contact with normal mucosa. Repeat weekly if necessary. 	<p>Vaginal</p> <ul style="list-style-type: none"> Cryotherapy with liquid nitrogen. Cryoprobe not recommended (risk of perforation and fistula formation) <p>OR</p> <ul style="list-style-type: none"> TCA or BCA 80%-90%. Apply small amount only to warts. If excess amount applied, powder with talc, baking soda or liquid soap. Repeat weekly if necessary. 	<p>Anal</p> <ul style="list-style-type: none"> Cryotherapy with liquid nitrogen <p>OR</p> <ul style="list-style-type: none"> TCA or BCA 80%-90%. Apply small amount only to warts. If excess amount applied, powder with talc, baking soda or liquid soap. Repeat weekly if necessary. 	<p>Oral</p> <ul style="list-style-type: none"> Cryotherapy with liquid nitrogen <p>OR</p> <ul style="list-style-type: none"> Surgical removal

1. Tetracycline/doxycycline contraindicated; erythromycin not recommended because it does not reliably cure an infected fetus; data insufficient to recommend azithromycin or ceftriaxone.

2. Treat also for *Chlamydia trachomatis* if not ruled out by a sensitive test.

3. Use only if medical contraindications to a cephalosporin, and when spectinomycin is not available or not indicated. Test-of-cure is prudent because efficacy data are limited and because of mounting concern about emergent resistance.

4. If this dose cannot be tolerated, then erythromycin base 250 mg orally or erythromycin ethylsuccinate 400 mg orally 4 times a day for 14 days can be used.

5. Quinolones are contraindicated in pregnant women.

6. The recommended regimen of ceftriaxone and doxycycline is for epididymitis most likely caused by gonococcal or chlamydial infection. The alternative regimen of ofloxacin or levofloxacin is recommended if epididymitis is most likely caused by enteric organisms.

7. Using a quinolone alone to initiate treatment of PID should be avoided. Whether the management of immunodeficient HIV-infected women with PID requires more intensive treatment has not been determined.

8. Lindane not recommended for pregnant and lactating women. Ivermectin not recommended for pregnant and lactating women.

9. Multiple studies and meta-analysis have not demonstrated a consistent association between metronidazole use during pregnancy and teratogenic or mutagenic effects in newborns.

10. Screening for, and treatment of, BV in pregnant women at high risk for premature delivery is recommended by some experts and should occur at the first prenatal visit. Intravaginal treatment during pregnancy (at high or low risk for premature delivery) not recommended.

11. Safety in pregnancy has not been established; pregnancy category C.

12. Safety during pregnancy **not** established.