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Refer to Algorithm in Fig. 23.1

Anal Conditions: Sexually Transmitted Diseases

- A. Screening for asymptomatic high-risk patients: Patients at high risk for contracting sexually transmitted diseases include men who have sex with men (MSM), anyone in high-risk sexual networks including prostitutes and swingers, and anyone with a current sexually transmitted disease. These patients should be universally tested for chlamydia and gonorrhea annually at anorectal, oropharyngeal, and urogenital sites (Fig. 23.1).
- B. Screening and management for symptomatic patients (Fig. 23.1)
 - (a) Perianal and/or genital lesions: Patients presenting with perianal or genital lesions are often misdiagnosed with fistulas, abscesses, hemorrhoids, or pruritus ani. Painful genital or perianal lesions in young sexually active patients are most likely due to infection with herpes or syphilis. Serologic testing for syphilis and HIV, and HSV culture or PCR should be performed. Empiric treatment should be started for the most likely pathogen.
 - (b) Proctitis: Patients presenting with anorectal pain, tenesmus, and discharge should undergo testing for gonorrhea, chlamydia, syphilis, and herpes. Proctoscopy may not be possible due to patient discomfort, but intra-anal swabs should be taken before doing a rectal exam with lubricant. Empiric treatment for gonorrhea, chlamydia, and herpes simplex virus should be started, as well as symptomatic management with topical anesthetics and stool softeners.
- C. Gonorrhea: Symptoms of gonococcal infection include dysuria, anorectal pain, anal discharge, or tenesmus. Nucleic acid amplification tests (NAATs) are recommended by the Centers for Disease Control (CDC) for detection of gonorrhea, except in cases of potential treatment failure in which cultures are required. Routine screening of all sexually active MSM and other high-risk populations at oropharyngeal, anorectal, and urogenital sites is recommended. Uncomplicated gonococcal infections should be treated with one intramuscular dose of ceftriaxone 250 mg, plus either one oral dose of azithromycin 1 g or a 7-day course of oral doxycycline 100 mg twice daily. Re-testing for gonorrhea should be performed at 3 months, and any sexual partners from the preceding 2 months should

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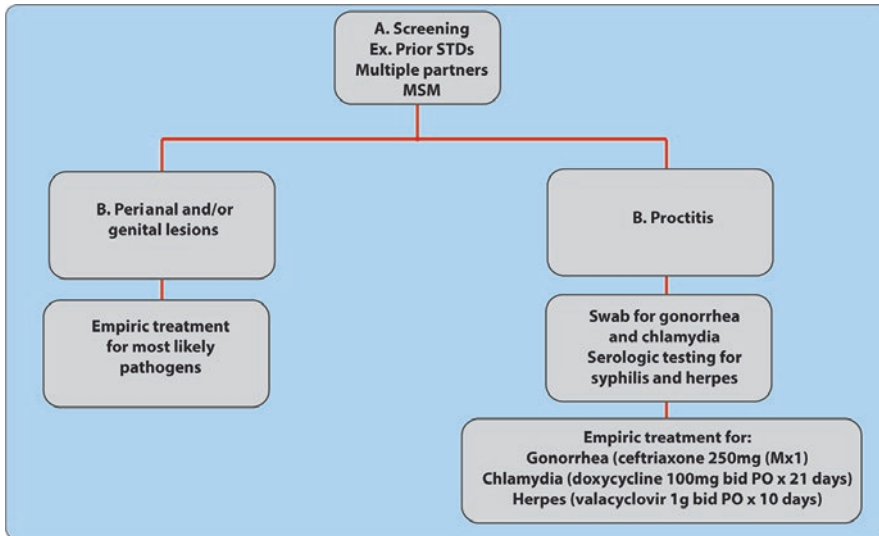


Fig. 23.1 Algorithm for testing and empiric treatment for symptomatic STDs (A&B); *MSM* men who have sex with men

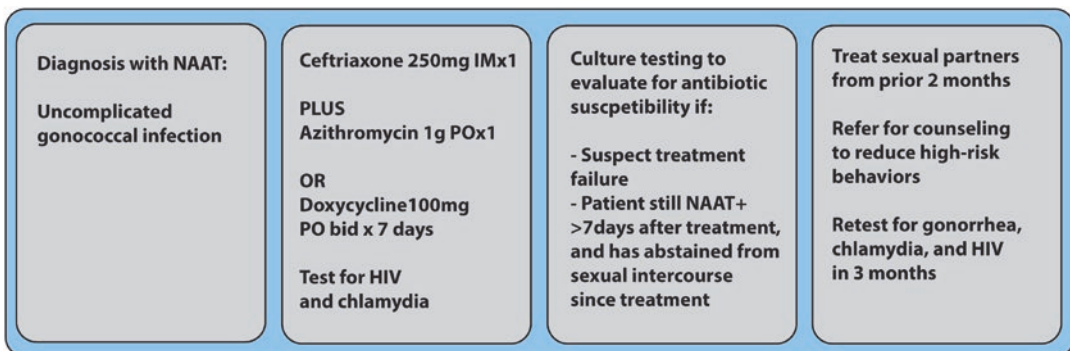


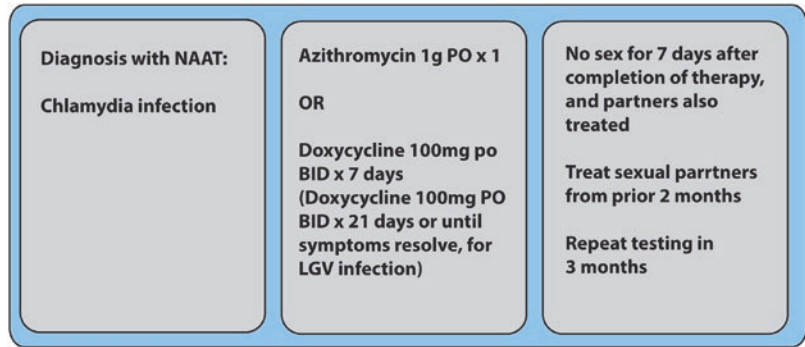
Fig. 23.2 Management of gonococcal infection (C); *NAAT* nucleic acid amplification test

also undergo empiric treatment. Chlamydia and HIV testing at the time of gonorrhea detection and 3–6 months later should also be performed (Fig. 23.2). Suspected treatment failures require culture for antimicrobial susceptibility testing, and confirmed treatment failures must be reported.

D. Chlamydia: As most infected patients are asymptomatic, screening of high-risk patients is critical to control this infection, which can cause the sequelae of pelvic inflammatory disease including infertility, chronic pelvic pain, and ectopic pregnancy. The CDC recommends NAATs using first catch urine or urethral swab for men, vaginal swab or

endocervical swab for women, and also rectal and oropharyngeal specimens. Screening should be performed in sexually active women 24 years of age and younger, as well as high-risk older women. Screening may also be considered for high-risk men, which includes men in STD clinics, National Job Training Programs, juvenile detention facilities, the military, jail, men with infected partners, and MSM reporting anoreceptive intercourse. Treatment is a single oral dose of azithromycin 1 g, or a 7-day course of doxycycline 100 mg twice a day. Patients should be counseled against engaging in sexual intercourse for a minimum of 7 days after treatment, and

Fig. 23.3 Management of chlamydia infection (D); NAAT nucleic acid amplification test; LGV Lymphogranuloma venereum



until after their partners have also been treated. Sexual partners from the prior 2 months should also be tested (Fig. 23.3).

- E. Lymphogranuloma venereum is caused by *Chlamydia trachomatis* serovars L1, L2, and L3, and presents with severe inflammation which can manifest as unilateral painful inguinal or femoral lymphadenopathy (buboes), genital ulcers, ulcerative proctocolitis or proctitis, or systemic constitutional symptoms. Untreated LGV may have serious sequelae including fistulas, strictures, infertility, pelvic fibrosis, and elephantiasis. The treatment is doxycycline 100 mg PO bid for 3 weeks. Buboes may require drainage. Sexual partners from the prior 2 months should be treated.
- F. Syphilis, (Fig. 23.4) caused by *Treponema pallidum*, has experienced a resurgence among young men, MSM, black men, and Hispanic men. It can present as a solitary nontender genital chancre, multiple chancres, or proctitis. Screening is performed with nontreponemal tests (VDRL and RPR); if this is positive, then a confirmatory treponemal test should be performed. All sexually active MSM and all patients with HIV should be screened at least annually for syphilis. Treatment is a single intramuscular dose of penicillin benzathine 2.4 million units (Table 23.1). Sexual contacts should be treated empirically. Repeat testing should be performed at 6 and 12 months after treatment.
- G. Chancroid, caused by *Haemophilus ducreyi*, causes multiple painful purulent genital ulcers with regional lymphadenopathy and bubo formation. It is diagnosed based on



Fig. 23.4 Syphilis caused by *Treponema pallidum*

symptoms and by ruling out syphilis and Herpes. Treatment consists of one dose of ceftriaxone 250 mg intramuscular, one dose of azithromycin 1 g orally, ciprofloxacin 500 mg twice a day orally for 3 days, or erythromycin base 500 mg 4 times a day orally for 7 days.

- H. Granuloma inguinale (donovanosis), caused by *Klebsiella granulomatis*, causes painless genital ulcers. Disseminated disease can cause cervical ulceration, pelvic lymphadenopathy, and septic arthritis; HIV-positive patients may experience malignant transformation. It is diagnosed with tissue smears that show Donovan bodies, or PCR. Treatment consists of three-week regimens of doxycycline, cipro-

Table 23.1 Management of syphilis infection (F)

	Treatment	Alternative treatment
Primary, secondary, early latent syphilis	Penicillin G benzathine 2.4 million units IM \times 1	Doxycycline 100 mg PO bid \times 2 weeks OR Tetracycline 500 mg QID \times 2 weeks
Tertiary or late latent syphilis, syphilis of unknown duration, or relapse of syphilis infection	Penicillin G benzathine 2.4 million units IM weekly \times 3 weeks	
Neurosyphilis, or patients co-infected with HIV and syphilis	Aqueous crystalline penicillin G 18–24 million units daily (given as 3–4 million units IV q4h, OR continuous infusion) \times 10–14 days	

floxacin, erythromycin base, or trimethoprim/sulfamethoxazole.

- I. Herpes simplex virus 1 and 2 both cause anogenital infection (Fig. 23.5), and 90% of those infected are unaware that they have it. Symptoms include painful vesicular ulcers and/or proctitis, and systemic symptoms especially with the first clinical episode. Cell culture, PCR, and serologic tests are available. Treatment with antiviral therapy (acyclovir, famciclovir, valacyclovir) can shorten the course of outbreaks, and suppressive therapy can be used in patients with frequent recurrences (≥ 4 per year) or in those whose sexual partners are negative for HSV.
- J. Human papillomavirus infection may occur in up to 50% of sexually active individuals who are not vaccinated. Low-risk types are HPV 6 and 11 and cause genital warts; high-risk types are HPV 16, 18, 31, 33, and 35 and may cause high-grade dysplasia or squamous cell carcinoma of the anus, cervix, penis, vulva, and vagina. The risk for cancer is higher in immunosuppressed patients, especially in HIV-positive patients. Screening for high-grade dysplasia of the anus is performed with liquid-based anorectal cytology; positive or suspicious findings should be followed up with anoscopy or high-resolution anoscopy. Treatment options for external genital warts, anal canal warts, and high-grade dysplasia are detailed in Table 23.2.

**Fig. 23.5** Herpes simplex virus

- K. HIV infection may cause painful anal fissures and ulcers, and also predispose patients to cryptoglandular disease. Fistulas and abscesses in patients with AIDS should be treated with smaller incisions and drain or seton placement rather than large incisions. Screening for HIV antibodies should be performed in all patients presenting for STD testing. A nucleic acid test may be required to diagnose an acute HIV infection.

Table 23.2 Management of HPV related lesions (J)

External genital warts	<p>Patient-applied therapies: Podofilox 0.5% solution or gel: apply bid x 3 days, then 4 days without therapy; can repeat cycle up to 4 times OR Imiquimod 5% cream: apply 3 times per week up to 16 weeks. Wash treated area with soap and water 6–10 h afterwards OR Sinecatechins 15% ointment: apply tid for up to 16 weeks</p> <p>Provider-administered therapies: Cryotherapy with liquid nitrogen or cryoprobe OR Podophyllin resin 10%–25% OR Trichloroacetic acid (TCA) or Bichloroacetic acid (BCA) OR Surgical fulguration or excision</p>
Anal canal warts	<p>Cryotherapy with liquid nitrogen OR Trichloroacetic acid (TCA) or Bichloroacetic acid (BCA) - can be applied weekly as needed OR Surgical fulguration or excision Consider high-resolution anoscopy to inspect for high-grade dysplasia</p>
High-grade anal dysplasia	<p>Consider high-resolution anoscopy with ablation and/or excision of aceto-white lesions</p>

L. Molluscum contagiosum, caused by the Molluscipox virus, results in small, waxy, dome-shaped umbilicated papules that may become secondarily infected due to scratching of the lesions. Treatment consists of curettage excision and cryotherapy and should only be done in immunocompetent patients. Topical treatment with imiquimod 5% cream can be given to immunosuppressed patients.

Suggested Reading

Centers for Disease Control and Prevention. Recommendations for the laboratory-based detection of Chlamydia trachomatis and Neisseria gonorrhoeae—2014. *MMWR Recomm Rep.* 2014;63:1–19.

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