Sexually-Transmitted Diseases
Sexually-Transmitted Diseases

Guideline Summary
About the Guideline

- The sexually transmitted disease (STD) treatment guidelines are published by the Centers for Disease Control and Prevention (CDC) and developed in collaboration with a multidisciplinary group of experts in the field of STD clinical management. These guidelines are intended to provide clinical guidance to health care providers with the latest, evidence-based treatment regimens as well as prevention strategies and diagnostic recommendations for management of persons who have or are at risk for STDs.
About the Guideline (continued)

- The guidelines are applicable to any patient care setting in which persons are at risk for STDs.
About the Guideline (continued)

- The guidelines are applicable to any patient care setting in which persons are at risk for STDs.
- The guideline comprises an extensive comprehensive review of STD diagnosis, management, and counseling recommendations for all those at risk for STD. This review will focus on the following key areas:

1) clinical prevention guidance
2) disease/organism-specific clinical presentation diagnosis, and management
3) special populations
4) emerging issues.
About the Guideline (continued)

- This review is not inclusive to the full extent of the CDC published *Sexually Transmitted Diseases Treatment Guidelines*, 2015 which offers additional detailed information on the management of STD during pregnancy and the intricacies of treatment and surveillance in those infected with HIV.
Clinical Update Highlights

The 2015 STD Treatment Guidelines serve as an update to the CDC’s Sexually Transmitted Disease Treatment Guidelines, 2011. Key clinical updates include the following (CDC, 2015)

(continue)
Clinical Update Highlights

- Updated treatment regimens for *Neisseria gonorrhoeae* due to increasing patterns of resistance
  - Urogenital gonorrhea treatment recommendation:
    - Single dose ceftriaxone 250 mg IM in combination with single dose azithromycin 1 gm PO
  - New regimens for those with penicillin allergies:
    - Single doses of PO gemifloxacin 320 mg AND PO azithromycin 2 gm
    - Single doses of PO or IM gentamicin 240 mg AND PO azithromycin 2 gm
- Alternate treatment regimens for genital warts
  - Imiquimod 3.75% or 5% cream
  - Podophyllin resin no longer recommended given safe/effective alternative regimens
- Recommendations on use of nucleic acid amplification tests (NAATs) for diagnosis of *trichomoniasis*
  (more sensitive/specific than wet mount in detecting trichomoniasis)
- New information on the role of *Mycoplasma genitalium* in urethritis/cervicitis with treatment and diagnostic recommendations
  - *M. genitalium* is a slow growing organism that may take up to 6 months to culture therefore NAAT is recommended for detection (but not readily available in non-research setting)
  - Recommendation to suspect and treat for *M. genitalium* in those with recurrent or persistent urethritis or recurrent or persistent cervicitis or pelvic inflammatory disease (PID)
Clinical Update Highlights

- Updates to human papilloma virus (HPV) vaccine recommendations and counseling
- Recommendations on the treatment of transgender persons
  - Consider and evaluate for anatomic diversity and screen for STDs (symptomatic and asymptomatic) based on sexual practices and risk factors
  - Transgender men may still have cervix/vagina and require screening for cervical HPV and cervical cancer, and STDs
- Recommendation for annual testing for hepatitis C in persons with human immunodeficiency virus (HIV)
- Updates to diagnostic evaluation of urethritis
- Recommendations regarding repeat testing for STDs for reinfection (3 months after treatment, retest all those who tested positive for chlamydia, gonorrhea and women who test positive for trichomoniasis)
Key Clinical Considerations

- Clinical Prevention Guidance
- Disease/Organism Specific Guidelines
- Special Populations
- Emerging Issues
Clinical Prevention Guidance
Five major strategies for prevention and control of STDs
Clinical Prevention Guidance

Five major strategies for prevention and control of STDs

1. Thorough and effective risk assessment with education and counseling regarding avoidance of STDs through behavioral change and recommended use of prevention services

2. Prevention methods including pre-exposure vaccination for vaccine-preventable STDs

3. Identification of both symptomatic and asymptomatic persons with infection

4. Effective diagnosis, treatment, counseling and follow up in those with STDs

5. Evaluation, treatment, and counseling of partners of those with an STD
Clinical Prevention Guidance
STD/HIV Risk assessment and prevention counseling
Clinical Prevention Guidance

STD/HIV Risk assessment and prevention counseling

- Primary prevention includes assessment of behavioral and biologic risk.
- Sexual history should be routinely obtained by health care provider and address risk reduction strategies.
- Interviewing should be respectful and non-judgmental including open ended questions, non-judgmental language, normalizing language.
- Recommendation to use the “5 P’s”: partners, practices, prevention of pregnancy, protection from STDs, past history of STDs.
- Further guidance on counseling available by the CDC at www.cdc.gov/std/treatment/resources
- Persons seeking treatment or evaluation for a particular STD should be screened for HIV and other STDs as indicated by community prevalence and individual risk factors.
- Risk assessment should include STD screening.
- Prevention counseling, high intensity behavioral counseling should be offered to all sexually active adolescents and to all adults who have received an STD diagnosis, have had an STD in the past year, have multiple sexual partners, or otherwise at high risk for STDs and HIV.
Clinical Prevention Guidance
Prevention methods
Clinical Prevention Guidance
Prevention methods

- **Pre-exposure vaccination** is considered one of the most effective measures to prevent transmission of human papillomavirus (HPV), Hepatitis A (HAV) and Hepatitis B (HBV).
  - HPV vaccination (Note: HPV vaccination guidelines have been updated since the publication of the 2015 STD treatment guidelines; newest recommendations are outlined below [Meites, Kempe, & Markowitz, 2016]):
    - HPV vaccine is recommended for all males and females aged 11 or 12; may be administered as early as age 9.
    - 2-dose series is recommended; administer second dose 6 to 12 months after the first dose.
    - If series begins on or after 15th birthday a 3-dose series is recommended at 0, 1-2, and 6 months.
      - In females, may administer through age 26.
      - In males, may administer through age 21 (in gay, bisexual, men who have sex with men (MSM), transgender and immunocompromised men [including those with HIV], may administer through age 26.)
    - Three dose series recommended for immunocompromised all individuals aged 9-26 years, including those with HIV infection.
  - HBV vaccination recommended for all unvaccinated, uninfected persons being evaluated or treated for an STD.
  - HAV vaccination recommended for high risk populations including MSM, IV drug users, and those with chronic liver disease or HIV (who have not yet been infected with one or both hepatitis infections).
Clinical Prevention Guidance
Prevention methods
Clinical Prevention Guidance

Prevention methods

• Abstinence and reduction of number of sex partners. The most reliable way to avoid transmission of STDs is to abstain from oral, vaginal and anal sex or to be in a long-term, mutually monogamous relationship with a partner known to be uninfected (CDC, 2015).

• Barrier methods
  • Male condoms must be used consistently and correctly for effective prevention of STDs and HIV infection.
  • Female condoms can provide protection from acquisition and transmission of STDs, however data is limited.
  • Cervical diaphragms/topical microbicides and spermicides are not recommended alone for STD or HIV prevention.
  • Male circumcision reduces the risk for HIV and some STDs in heterosexual men; limited data on MSM.
Clinical Prevention Guidance

Prevention methods
Clinical Prevention Guidance

Prevention methods

• Other prevention methods beyond the extent of this review, include (CDC, 2015):
  • Post-exposure prophylaxis for HIV and STDs
  • Antiretroviral treatment of those with HIV to prevent partner HIV infection
  • HSV treatment of persons with HIV and herpes simplex virus (HSV) infection to prevent HIV in uninfected partners
  • Pre-exposure prophylaxis for HIV
  • HIV seroadaptation strategies
  • Retesting after treatment to detect reinfections
Clinical Prevention Guidance
Partner Services
Clinical Prevention Guidance

Partner Services

• The goal of the clinical evaluation, counseling, diagnostic testing, and treatment of partners of those with STDs is to increase the number of infected persons brought to treatment and to disrupt transmission network (CDC, 2015).
  • Could involve administration of medication, counseling and/or written information given to infected individuals to provide to partners (may be state laws limiting treatment in some cases).
  • All those with STDs should receive counseling on partner notification.
  • Expedited Partner Therapy (EPT) (also called patient delivered partner therapy [PDPT]) is the practice of providing medication or prescription to individual infected with chlamydia or gonorrhea for them to provide to sex partner without requiring examination by healthcare provider.
Clinical Prevention Guidance
Reporting and Confidentiality
Clinical Prevention Guidance
Reporting and Confidentiality

- Timely and accurate reporting of STDs is essential to public health efforts in both monitoring morbidity trends, for partner notification and treatment, and for appropriate allocation of resources based on trends.
- Reportable STDs in every state include: HIV, AIDS, syphilis (including congenital syphilis), gonorrhea, chlamydia, chancroid. Reporting to health department of HIV and STDs remains confidential.
- Each state may have additional reportable diseases.
- Reporting may be done by laboratory, clinician or both.
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

*General clinical considerations:*
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

General clinical considerations:

- In the United States, most common cause of anogenital lesions is genital herpes or syphilis; other less common etiologies include chancroid or donovanosis; may be geographic variations in prevalence
- Presence of anogenital lesions increases risk for HIV acquisition and transmission; screen all those with genital, anal, or perianal ulcers for HIV
- Lesions may be associated with infections as well as non-infectious, non-sexually transmitted conditions including yeast, trauma, carcinoma, drug eruption, or other dermatologic conditions
- History and physical exam frequently are not sufficient for definitive diagnosis; all persons with an anogenital ulcer should be tested for syphilis, genital herpes, and for Haemophilus ducreyi in areas where chancroid is prevalent
- Consider biopsy in lesions that do not respond to treatment
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

Genital herpes simplex virus (HSV) Infections
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

*Kenital herpes simplex virus (HSV) Infections*

- When counseling patients, emphasize that genital herpes is a chronic, lifelong infection but in natural course of disease, the frequency of reoccurrences typically decreases over time.
- Two types of HSV can cause genital herpes: HSV-1 and HSV-2; HSV-2 most common cause of genital herpes.
- An estimated 50 million persons in the US are infected with HSV-2.
- Recent rise in HSV-1 anogenital herpetic infections among young women and MSM.
- Genital herpes can cause a prolonged clinical illness with severe genital ulcerations and neurologic involvement; therefore, all patients with first episodes of genital herpes should receive antiviral therapy.
- Clinical presentation
  - Painful clustered vesicular or ulcerative lesions
  - May be asymptomatic in mild cases with viral shedding intermittently in anogenital region
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

*Genital herpes simplex virus (HSV) Infections*
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

*Genital herpes simplex virus (HSV) Infections*

- **Diagnosis**
  - Cell culture (viral culture) or HSV polymerase chain reaction (PCR) via swab of lesion or lesion drainage
    - Cell culture low sensitivity secondary to significant/rapid decrease in viral load as lesions heal
    - PCR for HSV DNA-sensitive; test of choice for detecting central nervous system (CNS) and systemic HSV infections
  - Type specific serology or point-of-care type specific testing should be performed to distinguish between HSV-1 and HSV-2 as HSV-2 is more likely to reoccur and have subclinical shedding.
  - Negative PCR and cell culture do not exclude the diagnosis of HSV.
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

Genital herpes simplex virus (HSV) Infections
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

*Genital herpes simplex virus (HSV) Infections*

- Management
  - Empiric treatment recommended with suspected first episode of genital herpes, prompt therapy improves treatment success.
  - Address chronic nature of the disease rather than focusing solely on treatment of acute episodes of genital lesion and risk for sexual, perinatal transmission.
  - Recommend AGAINST use of topical anti-viral therapy.
  - Those with symptomatic first-episode genital HSV-2 infection typically experience recurrent episodes of genital lesions. Recommendations include prescribing antiviral therapy for recurrent genital herpes either as suppressive therapy to reduce the frequency of recurrences, or episodically treat or shorten the duration of lesions.
  - Recurrences are less frequent after initial genital HSV-1 infection
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

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Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

*Genital herpes simplex virus (HSV) Infections*
  - Management
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

*Genital herpes simplex virus (HSV) Infections*

  - **Management**
    - Treatment regimen
      - First clinical episode
        - Acyclovir 400 mg 3 times daily or 200 mg 5 times daily; both for 7-10 days
        - Valacyclovir 1 gm twice daily for 7-10 days
        - Famciclovir 250 mg 3 times daily for 7-10 days
      - Suppressive therapy for recurrent episodes
        - Acyclovir 400 mg twice daily (for up to 6 years)
        - Valacyclovir 500 mg or 1 gm, 500 mg daily
          - 500mg less effective in those with > 10 episodes/year
          - Safety and efficacy only studied up to 1 year
        - Famciclovir 250 mg twice daily (safety/efficacy studies up to 1 year)
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

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Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

*Genital herpes simplex virus (HSV) Infections*
  - Management
    - Treatment regimen (continued)
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

*Genital herpes simplex virus (HSV) Infections*

- **Management**
  - Treatment regimen (continued)
    - Recommended regimens for episodic therapy for recurrent episodes
      - Acyclovir 400 mg 3 times daily or 800 mg twice daily both for 5 days or 800 mg 3 times daily for 2 days
      - Valacyclovir 500 mg BID for 3 days or 1 gm daily for 5 days
      - Famciclovir 125 mg BID for 5 days; or 1 gm BID for 1 day; or 500 mg once, then 250 mg BID for 2 days
    - Severe infection
      - IV acyclovir and hospitalization recommended in those with disseminated infection, pneumonitis, hepatitis, or CNS complications
      - Acyclovir 5-10 mg/kg IV every 8 hours for 2-7 days, or until clinical improvement at which point, convert to PO for 10 days of total therapy
      - HSV encephalitis 21 days of therapy
      - Adjust dose for renal failure
    - Special treatment considerations for pregnancy, HIV, anti-viral resistance, and neonates are available at
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

*Genital herpes simplex virus (HSV) Infections*

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  - Treatment regimen (continued)
    - Recommended regimens for episodic therapy for recurrent episodes
      - Acyclovir 400 mg 3 times daily or 800 mg twice daily both for 5 days or 800 mg 3 times daily for 2 days
      - Valacyclovir 500 mg BID for 3 days or 1 gm daily for 5 days
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      - Acyclovir 5-10 mg/kg IV every 8 hours for 2-7 days, or until clinical improvement at which point, convert to PO for 10 days of total therapy
      - HSV encephalitis 21 days of therapy
      - Adjust dose for renal failure
    - Special treatment considerations for pregnancy, HIV, anti-viral resistance, and neonates are available at www.cdc.gov/std/tg2015/herpes.htm#a11
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases characterized by genital, anal, or perianal ulcers
Syphilis
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

*Syphilis*

- Systemic disease caused by *Treponema pallidum (TP)*
- Categorized by stages based on clinical presentation
- Mucocutaneous syphilitic lesions typically only present in first year of infection
- Sexual transmission of *T. pallidum* is thought to occur only when mucocutaneous syphilitic lesions are present. Such manifestations are uncommon after the first year of infection. Persons exposed sexually to a person who has primary, secondary, or early latent syphilis should be evaluated clinically and serologically and treated according to current recommendations.
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases characterized by genital, anal, or perianal ulcers

*Syphilis*
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases characterized by genital, anal, or perianal ulcers

Syphilis
  • Clinical presentation
    • Primary syphilis – ulcers or chancre at infection site
    • Secondary syphilis – skin rash, mucocutaneous lesions, lymphadenopathy
    • Tertiary syphilis – cardiac, gummatous lesions, tabes dorsalis and general paresis
    • Latent syphilis – lacking clinical manifestations; early latent (acquired within preceding year)
    • Neurosyphilis – infection of central nervous system, can occur at any stage
      • Early: meningitis, stroke, cranial nerve dysfunction, mental status changes, auditory or visual changes
      • Late (may occur 10-30 years after initial infection): tabes dorsalis, general paresis
  • Any suggestion of neurologic involvement should prompt cerebrospinal fluid (CSF) evaluation as well as ophthalmologic and otoscopic examination.
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases characterized by genital, anal, or perianal ulcers
Syphilis
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

**Syphilis**

- **Diagnosis**
  - Definitive diagnosis: detection of *T. pallidum* from lesion exudate or tissue
  - Darkfield microscopic examination detection of *T. pallidum*
  - Presumptive diagnosis: nontreponemal test AND treponemal test (Note: potential for false positive associated with various medical conditions and factors unrelated to syphilis [HIV, older age, IV drug use, pregnancy, immunizations, autoimmune disorders]; therefore, persons with a reactive nontreponemal test should always receive a treponemal test to confirm the diagnosis of syphilis.)
    - Nontreponemal tests:
      - Venereal Disease Research Laboratory (VDRL)
      - Rapid Plasma Reagin (RPR)
      - Titers associated with disease activity and used to monitor treatment response
    - Treponemal tests (various immunohistochemical test available):
      - Fluorescent treponemal antibody absorbed (FTA-ABS)
      - *T. pallidum* passive particle agglutination [TP-PA] assay
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases characterized by genital, anal, or perianal ulcers
*Syphilis*
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

**Syphilis**

- **Management**
  - Parenteral penicillin (PCN) G is the preferred drug for treating all stages of syphilis
  - Preparation, dosage, and duration of therapy depends on stage and clinical manifestations of the disease
    - Primary, secondary and early latent syphilis
      - Benzathine penicillin G 2.4 million units IM in single dose
      - Infants and children
        - Benzathine penicillin G 50,000 units/kg up to adult dose in single dose
        - Evaluate for congenital versus acquired syphilis
  - Re-evaluate clinical presentation and serologic studies in 6 and 12 months after treatment and PRN
    - Expect 4-fold decline in nontreponemal titers within 6 to 12 months
    - If response not appropriate, evaluate further for CNS involvement AND retreat with benzathine penicillin G 2.4 million units IM weekly for 3 weeks
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases characterized by genital, anal, or perianal ulcers
Syphilis
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

*Syphilis*

**Management**

- Tertiary syphilis with normal CSF examination
  - Benzathine penicillin G 2.4 million units IM weekly for 3 weeks
- Late latent syphilis (>1 year) or unknown
  - Benzathine penicillin G 2.4 million units IM weekly for 3 weeks
  - Infants and children
    - Benzathine penicillin G 50,000 units/kg IM, up to the adult dose of 2.4 million units
    - Administer 3 doses at 1-week intervals, total 150,000 units/kg up to the adult total dose of 7.2 million units
- Neurosyphilis and ocular syphilis
  - 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
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases characterized by genital, anal, or perianal ulcers
Chancroid
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

Chancroid

- Prevalence has declined in the US and worldwide; rare, possible sporadic outbreaks
- Disease caused by \textit{H. ducreyi}
- Clinical presentation
  - Combination of painful genital ulcer and tender suppurative inguinal adenopathy suggests a diagnosis of chancroid
- Diagnosis
  - Definitive diagnosis could be established by isolation of \textit{H. ducreyi} on culture media but there are no FDA-approved, commercially available tests in the US and sensitivity is low; some select labs do have ability to perform test
  - Diagnostic criteria (CDC, 2015):
    - one or more painful genital ulcers
    - genital ulcers with regional lymphadenopathy
    - no evidence of \textit{T. pallidum} by darkfield evaluation or no serologic evidence of syphilis performed at least 7 days after onset of ulcers
    - HSV PCR or HSV culture of ulcer exudate negative
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases characterized by genital, anal, or perianal ulcers
Chancroid
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

Chancroid

- Management
  - One of the following regimens:
    - Azithromycin 1 g PO once
    - Ceftriaxone 250 mg IM once
    - Ciprofloxacin 500 mg PO BID for 3 days
    - Erythromycin base 500 mg TID for 7 days
  - Successful treatment cures the infection, resolves the clinical symptoms, and prevents transmission to others.
    - Those with HIV and uncircumcised men may not respond as well to therapy.
    - Typical response within 3-7 days, recommend re-evaluate 3-7 days after completion of therapy.
    - Poor response to therapy should prompt further evaluation for alternate diagnoses.
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases characterized by genital, anal, or perianal ulcers

Granuloma Inguinale (Donovanosis)
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

*Granuloma Inguinale (Donovanosis)*

- Caused by intracellular gram-negative bacterium *Klebsiella granulomatis*
- Rare in US; endemic in less some tropical and less developed areas
- Clinical presentation
  - Painless, slowly progressive genital or perineal ulcerative lesion with no regional lymphadenopathy
  - Subcutaneous granulomas may occur
- Diagnosis
  - Difficult to isolate *Klebsiella granulomatis* on culture
  - Diagnosis requires visualization of dark-staining Donovan bodies on tissue crush preparation or biopsy
  - No FDA approved molecular test for DNA available
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases characterized by genital, anal, or perianal ulcers

*Granuloma Inguinale (Donovanosis)*
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

*Granuloma Inguinale (Donovanosis)*

- **Management**
  - Azithromycin 1 gm PO once per week or 500 mg daily; both for at least 3 weeks and until all lesion healed
  - Alternative treatment regimens (one of the following), ALL for at least 3 weeks and until all lesions healed:
    - Doxycycline 100 mg BID
    - Cipro 750 mg BID
    - Erythromycin 500 mg QID
    - Bactrim DS (160 mg/800 mg) BID
  - Treatment has been shown to halt progression of lesions
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases characterized by genital, anal, or perianal ulcers
*Lymphogranuloma venereum (LGV)*
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by genital, anal, or perianal ulcers

*Lymphogranuloma venereum (LGV)*

- Caused by *C. trachomatis*
- Clinical presentation
  - Single, self-limited anogenital ulcer or popular lesion at site of inoculation; may resolve by time care is sought
  - If lymphadenopathy present, it’s typically unilateral in the inguinal or femoral region
  - Rectal exposure may lead to proctocolitis
  - Mucoid or hemorrhagic rectal discharge, fever, pain, constipation, tenesmus
  - Potential for progression to invasive, systemic infection if not untreated
- Diagnosis
  - Diagnosis typically based on clinical suspicion
  - May obtain *C. trachomatis* isolates by culture, immunofluorescence, or NAAT on genital lesions, rectal specimens or lymph node specimens.
- Management
  - At the time of initial visit, before diagnostic tests, persons with a clinical syndrome consistent with LGV should be treated. Treatment cures infection and prevents ongoing tissue damage. Recommended regimen is doxycycline, with alternative regimen erythromycin.
    - Doxycycline 100 mg BID for 21 days or erythromycin 500 mg QID for 21 days.
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases Characterized by Urethritis and Cervicitis

*Urethritis*
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases Characterized by Urethritis and Cervicitis

Urethritis

- Characterized by urethral inflammation, may be result of infectious or non-infectious etiologies
- Common causative organisms
  - *N. gonorrhoeae*
  - *C. trachomatis*
  - *Mycoplasma genitalium* becoming a more well recognized cause of urethritis and less commonly prostatitis
- The term “non-gonococcal urethritis” (NGU) refers to urethritis not caused by gonorrheal infection
  - caused by *C. trachomatis* in 15%-40% (Bradshaw et al., 2006), but varies based on age group
  - caused by *M. genitalium* 15-25% of NGU cases (Manhart et al., 2007)
- *T. vaginalis* among potential causative etiologies
- Clinical presentation
  - Common symptoms include: dysuria, urethral pruritis, mucoid, mucopurulent or purulent urethral discharge
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases Characterized by Urethritis and Cervicitis

Urethritis

- Diagnosis
  - Point of care testing preferred: gram, methylene blue (MB), gentian violet stain microscopy, first void urine with microscopy and leukocyte esterase
  - Presence of gram-negative intracellular diplococci (GNID) or MB/GV purple intracellular diplococci on urethral smear indicative of presume gonorrhea infection
  - Co-infection with chlamydia common
- Always attempt to determine specific etiology
- NAAT testing of urine preferred due to high sensitivity
- Objective measures include:
  - Presence of urethral discharge
  - Gram stain with presence of > 2 WBC on oil emersion field
  - Positive leukocyte esterase on first void urine sample or microscopic exam of sediment with ≥ 10 WBC per microscopic field
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases Characterized by Urethritis and Cervicitis

Urethritis
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases Characterized by Urethritis and Cervicitis

_Urethritis_

- Management
  - Presumptive treatment should be initiated at the time of diagnosis
  - If point of care testing is not available, cover empirically for _C. trachomatis_ and _N. gonorrhoeae_ using one of the following regimens:
    - Azithromycin 1 gm in single dose
    - Doxycycline 100 mg BID for 7 days
  - Alternative regimens:
    - Erythromycin base 500 mg orally QID for 7 days
    - Erythromycin ethylsuccinate 800 mg QID for 7 days
    - Levofloxacin 50 mg PO for 7 days
    - Ofloxacin 300 mg BID for 7 days
  - Counseling should include abstinence from sexual activity until partner treated (for 7 days after single dose or completion of 7-day regimen)
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases Characterized by Urethritis and Cervicitis
Cervicitis
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases Characterized by Urethritis and Cervicitis

Cervicitis

- Clinical presentation
  - Characterized by presence of one or both of the following:
    - purulent or mucopurulent endocervical exudate visible in the endocervical canal or on an endocervical swab specimen (i.e. mucopurulent cervicitis)
    - stained endocervical bleeding easily induced by gentle passage of a cotton swab through the cervical os.
  - Frequently asymptomatic, but can be associated with complaints of abnormal vaginal discharge or intermenstrual vaginal bleeding

- Diagnosis
  - > 10 WBC per HPF on microscopy of vaginal fluid, in the absence of trichomonads, is suggestive of chlamydial or gonorrhea infection
  - In many cases of cervicitis, no organism is isolated. However, when an etiologic organism is isolated in the presence of cervicitis, it is typically C. trachomatis and N. gonorrhoeae.
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases Characterized by Urethritis and Cervicitis

Cervicitis
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases Characterized by Urethritis and Cervicitis

*Cervicitis*

- Cervicitis can also be present with trichomoniasis and genital herpes infections.
- Organism specific; for empiric/general cervicitis, give azithromycin 1 gm PO once OR doxycycline 100 mg BID for 7 days.
- Recommend concurrent treatment for gonococcal infection in at-risk individuals
  - High risk factors include: age < 25 years, new sex partner, multiple sex partners, or sex partner with STD; and in cases where NAAT testing not possible.
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases Characterized by Urethritis and Cervicitis
*Chlamydial infections (CT)*
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases Characterized by Urethritis and Cervicitis

*Chlamydial infections (CT)*

- The most frequently reported infections disease in the US, and prevalence is highest in persons aged < 24 years
- Can lead to serious clinical sequelae including PID, ectopic pregnancy, and infertility
- Clinical presentation
  - Asymptomatic infection is common in both men and women
- Diagnosis
  - Annual screening of all sexually active women aged <25 and high-risk older women
  - Consider screening of sexually active young men in clinical settings with high prevalence of CT or in populations with high burden of infection (e.g. MSM)
  - Can be diagnosed by testing first-catch urine or cervical swab in women or urethral swab in men
  - Treating infected persons prevents adverse reproductive health complications and continued sexual transmission; partner treatment can prevent reinfection and infection of other partners
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases Characterized by Urethritis and Cervicitis

*Chlamydial infections (CT)*
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases Characterized by Urethritis and Cervicitis

*Chlamydial infections (CT)*

- **Management**
  - Adults: azithromycin 1 gm PO once OR Doxycycline 100 mg BID for 7 days
  - Pregnancy: azithromycin 1 gm PO once
  - Infants/children:
    - Above 45 kg, under age 8 years: azithromycin 1 gm PO once;
    - Older than age 8 years: azithromycin 1 gm PO once OR Doxycycline 100 mg BID for 7 days
    - Infants/children less than 45 kg (urogenital/rectal) AND neonates (ophthalmia neonatorum, pneumonia): erythromycin base or ethylsuccinate both 50 mg/kg/day in 4 divided doses) for 14 days
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases Characterized by Urethritis and Cervicitis
Gonococcal infections (GC)
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases Characterized by Urethritis and Cervicitis

Gonococcal infections (GC)

- In the US, estimated 820,000 new GC infections occur each year
- Second most commonly reported communicable disease.
- Clinical presentation
  - Women: commonly asymptomatic
  - Men: typically present with signs of urethral infection
- Diagnosis
  - Annual screening is recommended for all sexually active women aged <25 years and for older women at increased risk for infection; screening in men and older women who are at low risk for infection is not recommended
  - Testing involves cervical or vaginal swab in women, urethral swab in men or urine testing in both
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases Characterized by Urethritis and Cervicitis

Gonococcal infections (GC)
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Diseases Characterized by Urethritis and Cervicitis

Gonococcal infections (GC)

- Management
  - Uncomplicated infection of cervix, urethra, rectum, pharynx, conjunctiva
  - Dual therapy of ceftriaxone 250 mg IM single dose PLUS Azithromycin 1 gm PO
  - Pregnancy: see CDC guidelines: www.cdc.gov/std/tg2015/gonorrhea.htm#preg
  - Children (urogenital, rectal, pharyngeal): ceftriaxone 25-50 mg/kg IV or IM, not to exceed 125 mg in single dose
  - Management of gonococcal meningitis and endocarditis and gonococcal infections in infants and children is addressed in the full guideline.
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by vaginal discharge

Bacterial vaginosis (BV)
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by vaginal discharge

*Bacterial vaginosis (BV)*

- **General**
  - Associated with having multiple male or female partners, a new sex partner, douching, lack of condom use, and lack of vaginal lactobacilli
  - The cause of microbial alteration that precipitates BV is not fully understood, and whether BV results from acquisition of a single sexually transmitted pathogen is not known.
  - Women with BV are at increased risk for other STDs (e.g. HIV, GC, CT and HSV-2), complications after gynecologic surgery, pregnancy complications, and recurrence of BV.

- **Clinical presentation**
  - BV is the most prevalent cause of vaginal discharge or malodor in women presenting with vaginal discharge; however, may be asymptomatic
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by vaginal discharge

*Bacterial vaginosis (BV)*
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by vaginal discharge

*Bacterial vaginosis (BV)*

- **Diagnosis**
  - Can be diagnosed by gram stain or the use of clinical criteria (3 of the following):
    - homogeneous, thin, white discharge that smoothly coats the vaginal walls
    - clue cells on microscopic examination
    - pH of vaginal fluid >4.5
    - a fishy odor of vaginal discharge before or after addition of 10% KOH (whiff test)

- **Management**
  - Treatment of male sex partners has not been beneficial in preventing the recurrence of BV
  - Treatment is recommended for symptomatic women with one of the following regimens:
    - Metronidazole 500 mg BID for 7 days
    - Metronidazole gel 0.75% 5 gm applicator intravaginal once daily for 5 days
    - Clindamycin cream 2% 5 gm applicator intravaginally QHS for 7 days
  - Alternate regimens include oral tinidazole or oral clindamycin
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by vaginal discharge

_Trichomoniasis (TV)_{
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by vaginal discharge

*Trichomoniasis (TV)*

- It is the most prevalent non-viral STDs in the US, affecting an estimated 3.7 million persons (Satterwhite CL, et al., 2013)
- Clinical presentation: most patients are asymptomatic
- Diagnosis
  - Culture was the gold standard method for diagnosis before the recent molecular detection methods became available.
  - Vaginal secretions are preferred specimen type as urine is less sensitive.
  - In men, culture requires urethral swab, urine or semen.
  - The most common method for TV diagnosis is the microscopic evaluation of wet preparations of genital secretions because of convenience and low cost.
- Management
  - Treatment reduces signs and symptoms of infection and might reduce transmission with recommended therapy
  - Metronidazole 2 gm orally in single dose, or tinidazole 2 gm orally in single dose
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by vaginal discharge

*Vulvovaginal candidiasis (VVC)*
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Diseases characterized by vaginal discharge

_Vulvovaginal candidiasis (VVC)_

- Usually caused by _C. albicans_ and less commonly by other _Candida_ sp. or yeasts.
- Clinical presentation
  - Typical symptoms include pruritus, vaginal soreness, dyspareunia, external dysuria and abnormal vaginal discharge.
- Diagnosis
  - Examination of a wet mount with KOH preparation should be performed for all women with symptoms or signs of VVC.
  - In those with negative wet mounts but existing symptoms, vaginal cultures for _Candida_ should be considered and remains the gold standard for diagnosis.
- Management
  - Treatment options include several over the counter agents for intravaginal use.
  - Prescription regimens include:
    - Butoconazole 2% cream 5 g intravaginally once
    - Terconazole 0.4% or 0.8% cream 5 g intravaginally daily for 3 days
    - Terconazole 80 mg vaginal suppository, once daily for 3 days
    - Diflucan 150 mg PO once
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Pelvic Inflammatory Disease (PID)
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Pelvic Inflammatory Disease (PID)

- PID is a spectrum of inflammatory disorders of the upper female genital tract, including any combination of endometritis, salpingitis, tubo-ovarian abscess, and pelvic peritonitis.
- Sexually transmitted organisms, especially GC and CT, are implicated in many cases; newer data suggests *M. genitalium* playing a role.
- Screening and treating sexually active women for CT reduces their risk for PID.
- Due to the difficulty of diagnosis and potential for damage to the reproductive health of women, providers should have a low threshold for the diagnosis and treatment of PID.
- Clinical presentation
  - Wide variation in signs and symptoms limit ability to diagnose acute PID
  - Symptoms may be subtle or nonspecific
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Pelvic Inflammatory Disease (PID)
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Pelvic Inflammatory Disease (PID)
  - Diagnosis
    - Usually based on imprecise clinic findings; delay in diagnosis and treatment contributes to inflammatory sequelae in the upper reproductive tract
    - One or more of the following additional criteria can be used to enhance the specificity of the minimum clinical criteria and support a diagnosis of PID:
      - oral temperature > 101°F
      - abnormal cervical mucopurulent discharge or cervical friability
      - presence of abundant number of WBC on saline microscopy of vaginal fluid
      - elevated erythrocyte sedimentation rate
      - elevated C-reactive protein
      - laboratory documentation of cervical infection with CT or GC
  - The most specific criteria for diagnosis of PID include
    - endometrial biopsy with histopathologic evidence of endometritis
    - transvaginal sonography or MRI techniques showing thickened, fluid-filled tubes with or without free pelvic fluid or tubo-ovarian complex
    - Doppler studies suggesting pelvic infection or laparoscopic findings consistent with PID
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Pelvic Inflammatory Disease (PID)

- Diagnosis
  - Usually based on imprecise clinic findings; delay in diagnosis and treatment contributes to inflammatory sequelae in the upper reproductive tract
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    - Doppler studies suggesting pelvic infection or laparoscopic findings consistent with PID
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Pelvic Inflammatory Disease (PID)
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Pelvic Inflammatory Disease (PID)

- Management
  - Initiate presumptive treatment in sexually active young women and other women at risk for STDs with pelvic or lower abdominal pain and no cause for the illness other than PID can be identified, AND cervical motion tenderness, adnexal tenderness or uterine tenderness on pelvic examination.
  - Treatment regimens must provide empiric, broad spectrum coverage of pathogens with activity effective against GC and CT.
  - In women with PID of mild or moderate clinical severity, parenteral and oral regimens have similar efficacy.
  - Decision regarding hospitalization should be based on provider judgement and whether the woman meets any of the following criteria: surgical emergency, tubo-ovarian abscess, pregnancy, severe illness, nausea and vomiting or high fever, unable to follow or tolerate an outpatient oral regimen or no clinical response to oral antimicrobial therapy.
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Pelvic Inflammatory Disease (PID)
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Pelvic Inflammatory Disease (PID)

• Management
  • Parenteral regimens – use one of the following:
    • Cefotetan 2 g IV every 12 hours PLUS doxycycline 100 mg PO or IV every 12 hours
    • Cefoxitin 2 gm IV every 6 hours PLUS doxycycline 100 mg PO or IV every 12 hours
    • Clindamycin 900 mg IV every 8 hours PLUS gentamicin loading dose IV or IM (2 mg/kg) followed by maintenance dose every 8 hours
  • PO/IM regimens – use one of the following:
    • Ceftriaxone 250 mg IM single dose PLUS doxycycline 100 mg twice daily with or without metronidazole 500 mg twice daily for 14 days
    • Cefoxitin 2 gm IM in single dose and probenecid 1 gm PO single dose PLUS doxycycline 100 mg twice daily with or without metronidazole 500 mg twice daily for 14 days
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Epididymitis
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Epididymitis

- Among sexually active men < 35 years, acute epididymitis is most frequently caused by CT or GC.
- In men > 35 years without anal intercourse reports, sexually transmitted acute epididymitis is less common and usually infection is in the setting of bacteriuria secondary to bladder outlet obstruction.
- Clinical presentation
  - Acute epididymitis is a clinical syndrome consisting of pain, swelling, and inflammation of the epididymis that lasts < 6 weeks, sometimes with testicular involvement.
- Diagnosis
  - A high index of suspicion for spermatic cord (testicular) torsion must be maintained in men who present with a sudden onset of symptoms associated with epididymitis, as this is a surgical emergency.
  - Chronic epididymitis is characterized by a > 6-week history of symptoms of discomfort and/or pain in the scrotum, testicle, or epididymis. Most frequently seen in conditions associated with granulomatous reaction; *mycobacterium tuberculosis* (TB) is the most common granulomatous disease affecting the epididymis and should be suspected.
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Epididymitis
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Epididymitis

- Management
  - Presumptive therapy for STDs is indicated at the time of the visit even before laboratory results are available.
  - Recommended regimes include combinations of ceftriaxone, doxycycline, levofloxacin or ofloxacin.
  - Acute caused by CT and GC: ceftriaxone 250mg IM once AND doxycycline 100 mg BID for 10 days
  - Acute, likely caused by sexually transmitted chlamydia and gonorrhea and enteric organisms (men who practice insertive anal sex): ceftriaxone 250 mg IM once AND levofloxacin 500 mg PO/day for 10 days OR ofloxacin 300 mg BID for 10 days
  - Acute most likely caused by enteric organisms: levofloxacin 500 mg PO/day for 10 days OR ofloxacin 300 mg BID for 10 days
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Human papillomavirus virus infection (HPV)
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Human papillomavirus virus infection (HPV)

- Approximately 100 types of HPV have been identified, at least 40 of which can infect the genital area. Most HPV infections are self-limited and are asymptomatic or unrecognized.
- Most sexually active persons become infected with HPV at least once in their lifetime.
- High-risk HPV infection (e.g. HPV types 16 and 18) cause most cervical, penile, vulvar, vaginal, anal, and oropharyngeal cancers and precancers, whereas low-risk HPV infection (e.g. HPV types 6 and 11) cause genital warts and recurrent respiratory papillomatosis.
- Persistent high-risk HPV infection is the strongest risk factor for development of HPV-associated precancers and cancers.
- Several HPV vaccines are licensed in the US: bivalent vaccine (Cervarix) prevents infection with HPV types 16 and 18; quadrivalent vaccine (Gardasil) prevents infection with HPV types 6, 11, 16, and 18; and a 9-valent vaccine that prevents infection with HPV types 6, 11, 16, 18 and 31, 33, 45, 52 and 58.
- Clinical presentation: asymptomatic or presence of genital warts
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Human papillomavirus virus infection (HPV)
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Human papillomavirus virus infection (HPV)

- Diagnosis
  - HPV tests are available to detect high-risk types of HPV infection and are used in the context of cervical cancer screening and management or follow-up of abnormal cervical cytology or histology.
  - These tests should not be used for male partners of women with HPV or women aged < 25 years, for diagnosis of genital warts, or as a general STD test.
- Management
  - Treatment is directed to the macroscopic (e.g. genital warts) or pathologic precancerous lesions caused by HPV.
  - External and perianal warts:
    - Patient applied: imiquimod 3.75% or 5% cream OR podofilox 0.5% solution or gel OR sinecatechins 15% ointment
    - Provider applied: cryotherapy OR trichloroacetic acid or bichloroacetic acid 80-90% OR surgical removal
  - Subclinical genital HPV infection typically clears spontaneously; therefore, specific antiviral therapy is not recommended to eradicate HPV infection.
  - Precancerous lesions are detected through cervical cancer screening with Pap test. Screening recommendations can be found at www.cdc.gov/cancer/cervical/index.htm; for management of abnormal tests and follow up, refer to the ASCCP 2012 Consensus Guidelines for Management of Abnormal Cervical Cytology (www.asccp.org).
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Viral Hepatitis
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Viral Hepatitis

- Hepatitis A
  - Caused by infection with the hepatitis A virus (HAV); produces a self-limited disease that does not result in chronic infection.
  - HAV infection is primarily transmitted by the fecal-oral route, by either person-to-person contact or through consumption of contaminated food or water.
  - Transmission of HAV during sexual activity probably results from fecal-oral contact; however, efforts to promote good personal hygiene have not been successful in interrupting outbreaks of hepatitis A.
  - Serologic testing is required for diagnosis; the presence of IgM antibody to HAV is diagnostic of acute HAV infection.
  - Treatment is typically supportive care, with no restrictions in diet or activity.
  - Vaccination is the most effective means of preventing HAV transmission among persons at risk for infection (e.g. MSM, drug users, and persons with chronic liver disease).
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Viral Hepatitis
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDs

Viral Hepatitis

- Hepatitis B
  - Caused by infection with the hepatitis B virus (HBV) and can produce a self-limited or chronic disease. HBV is transmitted by percutaneous or mucous membrane exposure to HBV-infected blood or body fluids.
  - Primary risk factors associated with infection are unprotected sex with an infected partner, multiple partners, MSM, history of other STDs, and injection-drug use.
  - Diagnosis of acute or chronic HBV infection requires serologic testing and the presence of IgM antibody to hepatitis B core antigen is diagnostic of acute or recently acquired HBV infection.
  - No specific therapy is available for persons with acute hepatitis; treatment is supportive. Therapeutic agents cleared by FDA for treatment of chronic hepatitis B can achieve sustained suppression of HBP replication and remission of liver disease.
  - Two products have been approved for hepatitis B prevention: hepatitis B immune globulin (HBIG) for post exposure prophylaxis and hepatitis B vaccine.
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Proctitis, proctocolitis, and enteritis
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Proctitis, proctocolitis, and enteritis

- Sexually transmitted gastrointestinal syndromes
- GC, CT, *T. pallidum*, and HSV are the most common pathogens involved.
- Symptomatic persons should be examined by anoscopy and presumptive therapy should be initiated prior to laboratory results.
- Clinical presentation
  - May be asymptomatic
  - Proctitis: inflammation of the rectum, possible anorectal pain, tenesmus, or rectal discharge.
  - Proctocolitis: symptoms of proctitis, diarrhea or abdominal cramps, inflammation of the colonic mucosa extending to 12 cm above the anus.
  - Enteritis: diarrhea and abdominal cramping without signs of proctitis or proctocolitis.
- Management: ceftriaxone 250 mg IM in single dose PLUS Doxycycline 100 mg PO twice daily for 7 days
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Ecotoparasitic infections
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS
Ecotoparasitic infections

Pediculosis pubis
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Ecotoparasitic infections

Pediculosis pubis

- Common symptoms: (i.e. public lice) pruritus, lice or nits on their pubic hair
- Usually transmitted by sexual contact
- Management
  - Permethrin 1% cream rinse OR pyrethrins with piperonyl butoxide: apply for 10 minutes and rinse off
  - Alternative regimens of malathion 0.5% lotion applied X 8-12 hrs and rinsed or Ivermectin 250 mcg/kg PO X 1 and repeated in 2 weeks
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Ecotoparasitic infections

Pediculosis pubis

- Common symptoms: (i.e. public lice) pruritus, lice or nits on their pubic hair
- Usually transmitted by sexual contact
- Management
  - Permethrin 1% cream rinse OR pyrethrins with piperonyl butoxide: apply for 10 minutes and rinse off
  - Alternative regimens of malathion 0.5% lotion applied X 8-12 hrs and rinsed or Ivermectin 250 mcg/kg PO X 1 and repeated in 2 weeks

Scabies
Disease/Organism Specific Guidelines for Diagnosis and Treatment of STDS

Ecotoparasitic infections

**Pediculosis pubis**

- Common symptoms: (i.e. public lice) pruritus, lice or nits on their pubic hair
- Usually transmitted by sexual contact
- Management
  - Permethrin 1% cream rinse OR pyrethrins with piperonyl butoxide: apply for 10 minutes and rinse off
  - Alternative regimens of malathion 0.5% lotion applied X 8-12 hrs and rinsed or Ivermectin 250 mcg/kg PO X 1 and repeated in 2 weeks

**Scabies**

- Common symptom is pruritus.
- In adults, frequently sexually acquired, although scabies in children usually is not.
- Management: permethrin 5% cream applied to all areas of body from neck down and rinsed off after 8-14 hours, OR ivermectin 200 ug/kg PO, repeated in 2 weeks
Special Populations

Pregnant women
Special Populations

Pregnant women

- Intrauterine or prenatally transmitted STDs can have clinically significant sequelae for pregnant women, their partners, and their fetuses.
- All pregnant women and partners should be asked about STDs, counseled about the possibility of perinatal infections, and provided access to screening and treatment if needed.
- First prenatal visit should include screening for HIV infection, syphilis, and hepatitis B; retest high-risk women in third trimester.
- In pregnant women < 25 and older women at increased risk for infection, screen for CT and GC the first prenatal visit.
- Risk assess pregnant women for HCV infection; screen for HCV antibodies in 1st trimester for those at risk.
- Pregnant women should undergo a Papanicolaou (pap) test within same interval as non-pregnant women; management of abnormalities may differ.
- Pregnant women with a history of or new diagnosis of genital HSV infection need to be counseled and treated appropriately due to risk for neonatal transmission.
Special Populations

Adolescents
Special Populations

Adolescents

- Adolescents and young adults have the highest rates of STDs
- Higher risk groups include:
  - Early initiation of sexual activity
  - Residence in detention center
  - Intravenous drug use
  - Those attending STD clinics
  - Young men who have sex with men (YMSM)
- All 50 states and DC allow minors to consent for their own health services for STDs (CDC, 2015); more information at www.cahl.org/state-minor-consent-laws-a-summary-third-edition
- Routine laboratory screening for common STDs is indicated for sexually active adolescents.
  - Annual screening for CT, GC
  - HIV screening offered to all adolescents, frequency of screening based on level of risk
  - Cervical cancer screening should begin at age 21 regardless of sexual activity
- Primary prevention measures include: HPV, HBV, and HAV vaccinations for those unvaccinated; sex education counseling incorporated into clinical practice
Special Populations

Children
Special Populations

Children

- Management of children with STDs requires multi-disciplinary team approach including close cooperation between clinicians, laboratorians, and child-protection authorities.

- Certain diseases acquired after the neonatal period, strongly suggest sexual contact
Special Populations

Persons in correctional facilities
Special Populations

Persons in correctional facilities

- High rates of STDs (including HIV) and viral hepatitis, especially in those < 35 years
- Recommend screening for CT and GC in all women ≤ 35 years and men < 30 years entering correctional facilities
- Syphilis screening should be based on local area and institutional prevalence
Special Populations
Men who have sex with men (MSM)
Special Populations

Men who have sex with men (MSM)

- Higher risk for HIV, early syphilis, GC, and CT
- High risk factors for MSM STD infection include, but not limited to: substance abuse (higher risk with methamphetamine use), multiple anonymous sex partners, seeking sex partners through the internet, HIV infection, black race, having ≥ 10 recent sex partners,
- Routinely evaluate for symptoms consistent with common STDs; provide counseling on safe sex practices
- Annual screening should be done for HIV, syphilis, urethral and rectal screening for both *N. gonorrhoeae* and *C. trachomatis* and pharyngeal *N. gonorrhoeae*
- More frequent screening interval in those with high risk sexual behaviors
- Serologic screening for HCV and HBV is recommended in those with past or current IV drug users
- HAV and HBV vaccination recommended for all MSM in whom previous infection or vaccination cannot be documented.
Special Populations

Women who have sex with women (WSW)
Special Populations

Women who have sex with women (WSW)

- HPV common among WSW; sexual transmission of HPV occurs between female partners and from past male partners.
- Routine cervical cancer screening should be offered to all women.
- Higher risk for HSV infection.
- WSW should not be presumed to be at low or no risk for STDs based on sexual orientation and screening for STDs should be based according to current guidelines.
Special Populations

Transgender men and women
Special Populations

Transgender men and women

- Defined as those who identify with a sex that differs from that which they were assigned at birth

- Assessment of STD/HIV related risks are based on current anatomy, behavioral history and sexual behaviors
Emerging Issues

Hepatitis C
Emerging Issues

Hepatitis C

- Most common bloodborne infection in the US with an estimated 2.7 million people living with chronic infection (Denniston, 2014)
- Transmission is primarily parenteral, usually through shared drug-injection needles and paraphernalia. HCV is not efficiently transmitted through sex, but with higher risk of sexual transmission in persons with HIV infection (increased risk in MSM with HIV infection)
- Primary prevention counseling to reduce risk of transmission and secondary prevention strategies to decrease risk of developing chronic liver disease
- Injection drug users should be counseled to:
  - use new, sterile syringes and equipment to inject drugs, and never share IV drug equipment or reuse syringes
  - use sterile water to prepare drugs
  - clean injection site prior to injection
  - dispose of syringes safely
Emerging Issues
Hepatitis C
Emerging Issues

Hepatitis C

- Clinical presentation
  - Acute infection typically asymptomatic or mild clinical illness.
  - Chronic infection can lead to active liver disease
- Diagnosis
  - HCV screening recommended for all persons born during 1945-1965 and those at high risk for infection or recognized exposure
  - Risk factors include: past or current injection drug use, receiving a blood transfusion before 1992, long-term hemodialysis, being born to a mother with HCV infection, intranasal drug use, receipt of an unregulated tattoo, and other percutaneous exposure
  - Diagnosed by serologic detection of HCV antibody; in those with positive HCV antibody; NAAT should be performed to detect HCV RNA
    - Potential false negative in those with HIV infection and low CD4 count
- Management
  - Referral to specialist in management of HCV infection
  - Requires monitoring for development of liver disease
  - No known post-exposure prophylaxis effective
  - Information on infection and treatment in the pregnant woman and those with HIV co-infection are discussed in detail in the 2015 STD Treatment Guidelines.
Emerging Issues

*Mycoplasma genitalium (MG)*
Emerging Issues

*Mycoplasma genitalium* (MG)

- Recognized as a cause of male urethritis, more common than GC, but less common than CT.
- Can be found in the vagina, cervix and endometrium; like GC and CT infections, MG infections in women are asymptomatic and has been linked to cervicitis and PID
- Diagnosis
  - Slow-growing organism, culture may take up to 6 months to grow
  - Although NAAT preferred, no FDA cleared tests available
  - Consider presumptive diagnosis in those with urethritis, cervicitis or PID that is recurrent or refractory to treatment
- Management
  - *M. genitalium* lacks cell wall, antibiotic treatment must target cell wall biosynthesis (beta-lactams are ineffective); 7-day course of doxycycline recommended for urethritis also ineffective
  - Preferred treatment for urethritis and cervicitis:
    - 1 g single dose of azithromycin
    - resistance appears to be emerging, assess for treatment failure
    - consider moxifloxacin 400 mg daily for 7, 10 or 14 days in cases of treatment failure
  - In PID refractory to standard recommended treatment, consider *M. genitalium* as a causative organism and consider treatment with moxifloxacin 400 mg daily for 7, 10 or 14 days
Emerging Issues

HIV Infection
Emerging Issues

HIV Infection

- Persons with HIV infection who are unaware of their infection are a significant public health problem.
- HIV screening recommend for all patients aged 13-64 years in all health care settings.
- Testing should be offered as voluntary and patients should not be tested without their knowledge.
- All persons who seek evaluation and treatment for STDs should be screened for HIV infection.
- Prevention counseling should be offered with all screening services.
- Clinical presentation
  - Begins with acute retroviral syndrome with subsequent development – over months to years – to a chronic, potentially, a life-threatening illness in the absence of treatment.
  - Highly infectious during initial, acute infectious period.
  - Symptoms of advanced disease may include: fever, weight loss, diarrhea, cough, shortness of breath, oral candidiasis.
  - Description of course of illness is beyond extent of this review.
Emerging Issues

HIV Infection
Emerging Issues

HIV Infection

- Diagnosis
  - Rapid testing available – with preliminary diagnosis within 30 minutes
  - Recommend diagnosis should include
    - Serologic testing for HIV-1 and HIV-2 antibodies/antigen
    - With HIV antibody detection, perform confirmatory testing with HIV antibody differentiation assay, western blot, or indirect immunofluorescence assay
    - Potential for false negative during acute infection
    - More specific recommendations and the diagnostic algorithm for HIV infection can be found in the full CDC STD guidelines
  - For all those HIV positive, screen for other curable STDs
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- Management
  - All those with suspicion for recently acquired infection should be referred immediately to a provider that specializes in HIV care and receive HIV specific counseling regarding transmission, expectations regarding course of illness, and evaluation and intervention for any associated psychological stress related to diagnosis.
  - With any suspicion for advanced illness, refer immediately.
  - HIV testing facilitates early diagnosis, which reduces the spread of disease, extends life expectancy, and reduces costs of care.
Emerging Issues

HIV Infection
Emerging Issues

HIV Infection

- Management (continued)
  - Counseling
    - Assess any immediate needs for medical care, psychosocial support, substance abuse counseling/treatment,
    - Reproductive counseling, risk reduction strategies, case management and expectations regarding ongoing medical care
    - Notification of sex partners and injection-drug partners
    - Provide information regarding partner services
      - Encourage HIV positive persons to notify partners and refer for treatment, testing and counseling
      - Providers should assist in partner notification as able, may include referral to partner notification public health programs
      - Offer post-exposure prophylaxis to partners who are notified and not known to be HIV positive
    - Specific guidelines exist for diagnosis and management of HIV during pregnancy and among neonates, infants and children.
Emerging Issues

Sexual assault, abuse and STDS

Adolescents and adults

Children
Emerging Issues

Sexual assault, abuse and STDS

Adolescents and adults

- Guidelines are primarily limited to the identification, prophylaxis, and treatment of STDs and conditions among adolescent and adult female sexual assault survivors.
- Trichomoniasis, BV, GC, and CT infection are the most frequently diagnoses infections in victims of assault/abuse.
- Initial examination should include testing for GC, CT, trichomoniasis, BV, and serum sampling for evaluation of HIV, hepatitis B, and syphilis infections.
- All reproductive-aged female survivors should be evaluated for pregnancy.
- Treatment should include empiric antimicrobial regimen for GC, CT, and trichomoniasis, emergency contraception, post exposure hepatitis B vaccination, and HPV vaccination.

Children
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Children

- Guidelines are limited in respect to identification and treatment of STDs in pre-pubertal children. Management of psychosocial or legal aspects of the assault or abuse is beyond the scope of these guidelines.
- Identification of STDs in children beyond the neonatal period strongly suggests sexual abuse. All US states and territories have laws that require the reporting of child abuse.
- Decision to obtain genital or other specimens from a child to evaluate for STDs must be made on individual basis; however, children who received a diagnosis on one STD should be screened for all STDs.
References


References


See More Guideline Summaries

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Access the full practice guideline @
https://www.cdc.gov/std/tg2015/default.htm