



2002 STD Treatment Guidelines

Division of STD Prevention, CDC

2002 STD Treatment Guidelines

- Evidence-based systematic review
- Consultants Meeting in September 2000
- 65 invited consultants- STD treatment experts, professional organizations, HMOs
- Background manuscripts in *Clinical Infectious Diseases* (October 2002)



STD Prevention and Control

- Education and counseling to reduce risk of STD acquisition
- Detection of asymptomatic and/or symptomatic persons unlikely to seek evaluation
- Effective diagnosis and treatment
- Evaluation, treatment, and counseling of sexual partners
- Preexposure vaccination--hepatitis A, B



Prevention Messages

- Prevention messages tailored to the client's personal risk; interactive counseling approaches are effective
- Despite adolescents greater risk of STDs, providers often fail to inquire about sexual behavior, assess risk, counsel about risk reduction, screen for asx infection
- Specific actions necessary to avoid acquisition or transmission of STDs
- Clients seeking evaluation or treatment for STDs should be informed which specific tests will be performed

Prevention Methods

Male Condoms

- Consistent/correct use of latex condoms are effective in preventing sexual transmission of HIV infection and can reduce risk of other STDs
- Likely to be more effective in prevention of infections transmitted by fluids from mucosal surfaces (GC, CT, trichomonas, HIV) than those transmitted by skin-skin contact (HSV, HPV, syphilis, chancroid)

Prevention Methods

Spermicides

- N-9 vaginal spermicides are not effective in preventing CT, GC, or HIV infection
- Frequent use of spermicides/N-9 have been associated with genital lesions
- Spermicides alone are not recommended for STD/HIV prevention
- N-9 should not be used a microbicide or lubricant during anal intercourse

MSM

- STD/HIV sexual risk assessment and client-centered prevention counseling
- Annual STD screening for MSM at risk
 - HIV and syphilis serology
 - Urethral cx or NAAT, GC/CT
 - Pharyngeal cx, GC (oro-genital)
 - Rectal cx, GC/CT (receptive anal IC)

Early HIV Infection

Initial Evaluation

- Medical/sexual history, previous STD
- Pex, pelvic (pap, wet mount), GC, CT
- Syphilis serology
- CD4 count, HIV viral load
- CBC, blood chemistry
- PPD, urinalysis, CXR
- Hepatitis A, B, C serology

Genital Ulcer

Evaluation

- Diagnosis based on medical history and physical examination often inaccurate
- Serologic test for syphilis
- Culture/antigen test for herpes simplex
- *Haemophilus ducreyi* culture in settings where chancroid is prevalent
- Biopsy may be useful

HSV Serologic Tests

Type-Specific

- HSV-specific glycoprotein G2 for HSV 2 infection and glycoprotein G1 for HSV 1
- Available gG type-specific assays- POCKit HSV-2, HerpeSelect HSV1/2 IgG ELISA and HerpeSelect 1/2 immunoblot IgG
- Sensitivity 80-98%, Specificity \geq 96%
- Confirmatory testing may be indicated in some settings



Genital Herpes

First Clinical Episode

Acyclovir 400 mg tid

or

Famciclovir 250 mg tid

or

Valacyclovir 1000 mg bid

Duration of Therapy 7-10 days



Genital Herpes

Episodic Therapy

Acyclovir 400 mg three times daily x 5 days

or

Acyclovir 800 mg twice daily x 5 days

or

Famciclovir 125 mg twice daily x 5 days

or

Valacyclovir 500 mg twice daily x 3-5 days

or

Valacyclovir 1 gm orally daily x 5 days



Genital Herpes

Daily Suppression

Acyclovir 400 mg bid

or

Famciclovir 250 mg bid

or

Valacyclovir 500-1000 mg daily

Genital Herpes

HIV Infection

- May have prolonged or severe episodes with extensive genital or perianal disease
- Episodic or suppressive antiviral therapy often beneficial
- For severe cases, acyclovir 5-10 mg/kg IV q 8 hours may be necessary

Genital Herpes

HIV Infection/Episodic Therapy

Acyclovir 400 mg three times daily

or

Famciclovir 500 mg twice daily

or

Valacyclovir 1 gm twice daily

Duration of Therapy 5-10 days

Genital Herpes

HIV Infection/Daily Suppression

Acyclovir 400-800 mg twice to three times daily

or

Famciclovir 500 mg twice daily

or

Valacyclovir 500 mg twice daily

Genital Herpes

Antiviral Resistance

- Persistent or recurrent lesions on antivirals
- Obtain viral isolate for viral susceptibility
- 5% immunocompromised patients
- Acyclovir resistant isolates-resistant to valacyclovir, most resistant to famciclovir
- Alternatives: Foscarnet 40 mg/kg IV q 8 or topical cidofovir gel 1% (daily x 5 days)

Genital Herpes

Treatment in Pregnancy

- Available data do not indicate an increased risk of major birth defects (first trimester)
- Limited experience on pregnancy outcomes with prenatal exposure to valacyclovir or famciclovir
- Acyclovir may be used with first episode or severe recurrent disease
- Risk of transmission to the neonate is 30-50% among women who acquire HSV near delivery

Genital Herpes

Counseling

- Natural history of infection, recurrences, asymptomatic shedding, transmission risk
- Individualize use of episodic or suppressive therapy
- Abstain from sexual activity when lesions or prodromal symptoms present
- Risk of neonatal infection

Syphilis

Primary, Secondary, Early Latent

Recommended regimen

Benzathine Penicillin G, 2.4 million units IM

*Penicillin Allergy**

Doxycycline 100 mg twice daily x 14 days

or

Ceftriaxone 1 gm IM/IV daily x 8-10 days (limited studies)

or

Azithromycin 2 gm single oral dose (preliminary data)

****Use in HIV-infection has not been studied***



Primary/Secondary Syphilis

Response to Treatment

- No definitive criteria for cure or failure are established
- Re-examine clinically and serologically at 6 and 12 months
- Consider treatment failure if signs/symptoms persist or sustained 4x increase in nontreponemal test
- Treatment failure: HIV test, CSF analysis; administer benzathine pcn weekly x 3 wks
- Additional therapy not warranted in instances when titers don't decline despite nl CSF and repeat therapy

Primary/Secondary Syphilis

Response to Therapy/HIV Infection

- Most respond appropriately to benzathine penicillin 2.4 million units IM
- Some experts recommend CSF exam before therapy and additional tx (wkly benz pen IM x 3)
- Clinical/serologic evaluation at 3, 6, 9, 12, 24 mo; some perform CSF exam at 6 mo
- Tx/serologic failure (6-12 mo after tx)- CSF exam, retreat with benz penicillin 2.4 mu wkly x 3



Syphilis

Latent Syphilis

Recommended regimen

Benzathine penicillin G 2.4 million units IM at one week intervals x 3 doses

*Penicillin allergy**

Doxycycline 100 mg orally twice daily

or

Tetracycline 500 mg orally four times daily

Duration of therapy 28 days; close clinical and serologic follow-up; data to support alternatives to pcn are limited



Latent Syphilis

Management Considerations

- Clinical evaluation of tertiary disease (aortitis, gumma, iritis)
- CSF analysis: neurologic or ophthalmic signs/sx, active tertiary disease, tx failure, HIV infection
- Some experts recommend CSF exam in those with nontreponemal titer of $\geq 1:32$
- Pharmacologic considerations suggest an interval of 10-14 days between benz pen doses may be acceptable before restarting treatment course in nonpregnant patients

Latent Syphilis

Response to Treatment

- Limited data available to guide evaluation
- Repeat quantitative nontreponemal tests at 6, 12, 24 months
- Perform CSF exam and re-treat for latent syphilis: 4x increase in titer, initial nontreponemal titer $\geq 1:32$ fails to decline 12-24 mo after tx, or signs/sx

Latent Syphilis

Response to Therapy/HIV Infection

- CSF exam before treatment
- Normal CSF exam-benzathine penicillin 2.4 million units IM wkly x 3 weeks
- Clinical/serologic evaluation at 6, 12, 18, 24 months
- Development of sx or 4x titer rise-repeat CSF exam and treat
- Repeat CSF exam and treatment if nontreponemal titer does not decline in 12-24 months

Syphilis

Management of Sex Partners

- At risk- 3 mo + sx for primary, 6 mo + sx for secondary, one yr for early latent
- Exposure to primary, secondary, or early latent within 90 days, tx presumptively
- Exposure to primary, secondary, or early latent > 90 days, tx presumptively if serology not available
- Exposure to latent syphilis who have high nontreponemal titers $\geq 1:32$, consider presumptive tx for early syphilis

Neurosypphilis

Recommended regimen

Aqueous crystalline penicillin G, 18-24 million units administered 3-4 million units IV every 4 hours for 10-14 days

Alternative regimen

Procaine penicillin 2.4 million units IM daily plus probenecid 500 mg orally four times daily for 10-14 days

Some experts administer benzathine penicillin 2.4 million units IM wkly x 3 after completion of these regimens to provide comparable duration of treatment with latent syphilis

Neurosypphilis

Penicillin Allergy

- Ceftriaxone 2 gm daily IM/IV for 10-14 days
- Consideration of cross-reactivity
- Pregnant patients should undergo penicillin desensitization
- Other regimens have not been evaluated

Neurosypphilis

Response to Treatment

- Initial CSF pleocytosis--repeat CSF exam every 6 months until cell count normal
- CSF VDRL and protein decline slowly
- Consider re-treatment if cell count has not decreased by 6 months or if CSF is not normal by 2 years

Syphilis

Treatment in Pregnancy

- Screen for syphilis at first prenatal visit; repeat RPR third trimester/delivery for those at high risk or high prevalence areas
- Treat for the appropriate stage of syphilis
- Some experts recommend additional benzathine penicillin 2.4 mu IM after the initial dose for primary, secondary, or early latent syphilis
- Management and counseling may be facilitated by sonographic fetal evaluation for congenital syphilis in the second half of pregnancy

Congenital Syphilis

Infants with Seroreactive Mothers

- Nontreponemal test on infant serum
- Examination (nonimmune hydrops, jaundice, HSM, rhinitis, rash)
- Pathologic exam of placenta or umbilical cord (fluorescent antitreponemal antibody)
- Darkfield or DFA of suspicious lesions or body fluids

Congenital Syphilis

Proven/highly probable disease

- Abnormal physical exam consistent with congenital syphilis
- Nontreponemal titer $4X \geq$ maternal titer or + DFA or darkfield
- Evaluation: CSF exam, CBC; other tests as clinically indicated--long bone films, LFTs, cranial US, eye exam, auditory brain stem response

Congenital Syphilis

Proven/highly probable disease

Aqueous crystalline penicillin G 100,000-150,000 units/kg/day, administered as 50,000 units/kg/dose IV q 12 hours during the first 7 days and thereafter q 8 hours for 10 days

or

Procaine penicillin G 50,000 units/kg/dose IM in a single daily dose for 10 days

Congenital Syphilis

Normal exam/RPR \leq 4X maternal titer

- Mother inadequately treated; treated with nonpenicillin regimen; received tx < 4 wks before delivery; or mother has early syphilis with serologic response
- Evaluation: CSF analysis, CBC/plt, long bone xray

Congenital Syphilis

Normal Exam/RPR \leq 4X maternal titer

Aqueous penicillin G 100,000-150,000 units/kg/day as
50,000 units/kg/dose IV every 12 hours for first 7 d then
q 8 hours for total of 10 d

or

Procaine penicillin G 50,000 units/kg/dose IM in single daily
dose for 10 d

or

Benzathine penicillin G 50,000 units/kg/dose IM in single
dose

Congenital Syphilis

Normal exam/RPR \leq 4X maternal titer

- Mother treated appropriately > 4 wks before delivery; maternal RPR titers decreased 4X; no relapse or reinfection
- No evaluation required
- Benzathine pcn G 50,000 units/kg/dose IM

Congenital Syphilis

Normal exam/RPR \leq 4X maternal titer

- Mother received adequate tx before pregnancy; maternal RPR remained low and stable during pregnancy and delivery
- No evaluation necessary
- No treatment required; some specialists would tx with single dose of benz pen G

Congenital Syphilis

Subsequent Evaluation

- Clinical/serologic evaluation q 2-3 mo
- RPR should decline by 3 mo, nonreactive at 6 mo
- Stable or increasing titers after 6-12 mo--CSF analysis/parenteral pcn X 10 d
- Reactive treponemal/RPR after 18 mo re-evaluate and treat for congenital syphilis

Congenital Syphilis

Older Infants and Children

- Review records and maternal serology- congenital vs acquired
- Evaluation- CSF analysis, CBC/pts; +/- long bone films, auditory brain stem response
- Treatment- Aqueous pcn G 50,000 units/kg q 4-6 hours for 10 days



Chancroid

Azithromycin 1 gm orally

or

Ceftriaxone 250 mg IM in a single dose

or

Ciprofloxacin 500 mg twice daily x 3 days

or

Erythromycin base 500 mg tid x 7 days

Chancroid

Management Considerations

- Re-examination 3-7 days after treatment
- Time required for complete healing related to ulcer size
- Lack of improvement: incorrect diagnosis, co-infection, non-compliance, antimicrobial resistance
- Resolution of lymphadenopathy may require drainage

Chancroid

Management of Sex Partners

Examine and treat partner whether symptomatic or not if partner contact \leq 10 days prior to onset



Lymphogranuloma Venereum

Recommended regimen

Doxycycline 100 mg twice daily for 21 days

Alternative regimen

Erythromycin base 500 mg four times daily for 21 days

Granuloma Inguinale

Doxycycline 100 mg twice daily

or

Trimethoprim-sulfamethoxazole 800 mg/160 mg twice daily

Minimum treatment duration three weeks

Granuloma Inguinale

Alternative regimens

Ciprofloxacin 750 mg twice daily

or

Erythromycin base 500 mg four times daily

or

Azithromycin 1 gm orally weekly

Minimum treatment duration three weeks

Urethritis

- Mucopurulent or purulent discharge
- Gram stain of urethral secretions ≥ 5 WBC per oil immersion field
- Positive leukocyte esterase on first void urine or ≥ 10 WBC per high power field

Empiric treatment in those with high risk who are unlikely to return

Nongonococcal Urethritis



Azithromycin 1 gm in a single dose

or

Doxycycline 100 mg bid x 7 days

Nongonococcal Urethritis

Alternative regimens

Erythromycin base 500 mg qid for 7 days

or

Erythromycin ethylsuccinate 800 mg qid for 7 days

or

Ofloxacin 300 mg twice daily for 7 days

or

Levofloxacin 500 mg daily for 7 days

Recurrent/Persistent Urethritis

- Objective signs of urethritis
- Re-treat with initial regimen if non-compliant or re-exposure occurs
- Intraurethral culture for trichomonas
- Effective regimens not identified in those with persistent symptoms without signs

Recurrent/Persistent Urethritis

Metronidazole 2 gm single dose

PLUS

Erythromycin base 500 mg qid x 7d

or

Erythromycin ethylsuccinate 800 mg qid x 7d



Chlamydia trachomatis

- Annual screening of sexually active women ≤ 25 yrs
- Annual screening of sexually active women > 25 yrs with risk factors
- Sexual risk assessment may indicate more frequent screening for some women
- Rescreen women 3-4 months after treatment due to high prevalence of repeat infection



Chlamydia trachomatis

Azithromycin 1 gm single dose

or

Doxycycline 100 mg bid x 7d

Chlamydia trachomatis

Alternative regimens

Erythromycin base 500 mg qid for 7 days

or

Erythromycin ethylsuccinate 800 mg qid for 7 days

or

Ofloxacin 300 mg twice daily for 7 days

or

Levofloxacin 500 mg for 7 days

Chlamydia trachomatis

Treatment in Pregnancy

Recommended regimens

Erythromycin base 500 mg qid for 7 days

or

Amoxicillin 500 mg three times daily for 7 days

Alternative regimens

Erythromycin base 250 mg qid for 14 days

or

Erythromycin ethylsuccinate 800 mg qid for 14 days

or

Erythromycin ethylsuccinate 400 mg qid for 14 days

or

Azithromycin 1 gm in a single dose

Neisseria gonorrhoeae

Cervix, Urethra, Rectum

Cefixime 400 mg

or

Ceftriaxone 125 IM

or

Ciprofloxacin 500 mg

or

Ofloxacin 400 mg/Levofloxacin 250 mg

PLUS Chlamydial therapy if infection not ruled out

Neisseria gonorrhoeae

Cervix, Urethra, Rectum

Alternative regimens

Spectinomycin 2 grams IM in a single dose

or

Single dose cephalosporin (cefotaxime 500 mg)

or

Single dose quinolone (gatifloxacin 400 mg,
lomefloxacin 400 mg, norfloxacin 800 mg)

PLUS Chlamydial therapy if infection not ruled out

Neisseria gonorrhoeae

Pharynx

Ceftriaxone 125 IM in a single dose

or

Ciprofloxacin 500 mg in a single dose

PLUS Chlamydial therapy if infection not ruled out

Neisseria gonorrhoeae

Treatment in Pregnancy

- Cephalosporin regimen
- Women who can't tolerate cephalosporin regimen may receive 2 g spectinomycin IM
- No quinolone or tetracycline regimen
- Erythromycin or amoxicillin for presumptive or diagnosed chlamydial infection

Disseminated Gonococcal Infection

Recommended regimen

Ceftriaxone 1 gm IM or IV q 24 hr

Alternative regimens

Cefotaxime or Ceftizoxime 1 gm IV q8 hr

or

Ciprofloxacin 400 mg IV q 12

or

Ofloxacin 400 mg IV q 12

or

Levofloxacin 250 mg IV daily

Neisseria gonorrhoeae Antimicrobial Resistance



- Geographic variation in resistance to penicillin and tetracycline
- No significant resistance to ceftriaxone
- Fluoroquinolone resistance in SE Asia, Pacific, Hawaii, California
- Surveillance is crucial for guiding therapy recommendations

Candida Vaginitis

Classification

Uncomplicated

Sporadic, infrequent

Mild-to-moderate

Likely *C albicans*

Non-immunocompromised

Complicated

Recurrent

Severe

Non-albicans

Diabetes, pregnancy,
immunosuppression



Candida Vulvovaginitis

Intravaginal regimens

Butoconazole, clotrimazole, miconazole,
nystatin, tioconazole, terconazole

Oral regimen

Fluconazole 150 mg in a single dose

Recurrent VVC



- Four or more symptomatic episodes/year
- Vaginal culture useful to confirm diagnosis and identify unusual species
- Initial regimen of 7-14 days topical therapy or fluconazole 150 mg (repeat 72 hr)
- Maintenance regimens- clotrimazole, ketoconazole, fluconazole, itraconazole
- Non-albicans VVC- longer duration of therapy with non-azole regimen

Vulvovaginal Candidiasis

Management of Sex Partners

- Treatment not recommended
- Treatment of male partners does not reduce frequency of recurrences in the female
- Male partners with balanitis may benefit from treatment



Vulvovaginal Candidiasis

Treatment in Pregnancy

- Only topical intravaginal regimens recommended
- Most specialists recommend 7 days of therapy

Trichomoniasis

Recommended regimen

Metronidazole 2 gm orally in a single dose

Alternative regimen

Metronidazole 500 mg twice a day for 7 days

Pregnancy

Metronidazole 2 gm orally in a single dose

Trichomoniasis

Treatment Failure

- Re-treat with metronidazole 500 mg twice daily for 7 days
- If repeated failure occurs, treat with metronidazole 2 gm single dose for 3-5 days
- If repeated failure, consider metronidazole susceptibility testing through the CDC

Trichomoniasis

Management of Sex Partners

- Sex partners should be treated
- Avoid intercourse until therapy is completed and patient and partner are asymptomatic



Bacterial Vaginosis

Metronidazole 500 mg twice daily for 7 days

or

Metronidazole gel 0.75%, 5 g intravaginally once daily for 5 days

or

Clindamycin cream 5%, 5 g intravaginally qhs for 7 days

Bacterial Vaginosis

Alternative regimens

Metronidazole 2 gm in a single dose

or

Clindamycin 300 mg twice daily for 7 days

or

Clindamycin ovules 100 g intravaginally
qhs for 3 days

Bacterial Vaginosis

Treatment in Pregnancy

- Symptomatic pregnant women should be treated due to association with adverse pregnancy outcomes
- Existing data do not support use of topical agents in pregnancy
- Some experts recommend screening and treatment of asymptomatic women at high risk for preterm delivery (previous preterm birth) at the first prenatal visit; optimal regimen not established

Bacterial Vaginosis

Treatment in Pregnancy

Metronidazole 250 mg three times
daily for 7 days

or

Clindamycin 300 mg twice daily for 7
days



Bacterial Vaginosis

Management of Sex Partners

Woman's response to therapy and the likelihood of relapse or recurrence not affected by treatment of sex partner

Pelvic Inflammatory Disease

Minimum Diagnostic Criteria

Uterine/adnexal tenderness or cervical motion tenderness

Additional Diagnostic Criteria

Oral temperature >38.3 C

Cervical CT or GC

WBCs/saline microscopy

Elevated ESR

Elevated CRP

Cx discharge

Pelvic Inflammatory Disease

Definitive Diagnostic Criteria

- Endometrial biopsy with histopathologic evidence of endometritis
- Transvaginal sonography or MRI showing thick fluid-filled tubes
- Laparoscopic abnormalities consistent with PID

Pelvic Inflammatory Disease

Hospitalization

- Surgical emergencies not excluded
- Pregnancy
- Clinical failure of oral antimicrobials
- Inability to follow or tolerate oral regimen
- Severe illness, nausea/vomiting, high fever
- Tubo-ovarian abscess

Pelvic Inflammatory Disease



- No efficacy data compare parenteral with oral regimens
- Clinical experience should guide decisions regarding transition to oral therapy
- Until regimens that do not adequately cover anaerobes have been demonstrated to prevent sequelae as successfully as regimens active against these microbes, regimens should provide anaerobic coverage

Pelvic Inflammatory Disease

Parenteral Regimen A

Cefotetan 2 g IV q 12 hours

or

Cefoxitin 2 g IV q 6 hours

PLUS

Doxycycline 100 mg orally/IV

q 12 hrs

Pelvic Inflammatory Disease

Parenteral Regimen B

Clindamycin 900 mg IV q 8 hours

PLUS

Gentamicin loading dose IV/IM (2 mg/kg) followed by maintenance dose (1.5 mg/kg) q 8 hours. Single daily dosing may be substituted.

Pelvic Inflammatory Disease

Alternative Parenteral Regimens

Ofloxacin 400 mg IV q 12 hours

or

Levofloxacin 500 mg IV once daily

WITH OR WITHOUT

Metronidazole 500 mg IV q 8 hours

or

Ampicillin/Sulbactam 3 g IV q 6 hrs

PLUS

Doxycycline 100 mg orally/IV q 12 hrs

Pelvic Inflammatory Disease

Oral Regimen A

Ofloxacin 400 mg twice daily for 14 days

or

Levofloxacin 500 mg once daily for 14 days

WITH OR WITHOUT

Metronidazole 500 mg twice daily for 14 days

Pelvic Inflammatory Disease

Oral Regimen B

Ceftriaxone 250 mg IM in a single dose

or

Cefoxitin 2 g IM in a single dose and Probenecid 1 g administered concurrently

PLUS

Doxycycline 100 mg twice daily for 14 days

WITH or WITHOUT

Metronidazole 500 mg twice daily for 14 days

Pelvic Inflammatory Disease

Management of Sex Partners

- Male sex partners of women with PID should be examined and treated for sexual contact 60 days preceding pt's onset of symptoms
- Sex partners should be treated empirically with regimens effective against CT and GC

Epididymitis

Diagnostic Considerations

- Gram stain smear of urethral exudate for diagnosis of urethritis
- Intraurethral culture or nucleic acid amplification test for GC and CT
- Examination of first void uncentrifuged urine for WBCs if urethral gram stain negative



Epididymitis

Infection likely due to GC or CT

Ceftriaxone 250 mg IM in a single dose

PLUS

Doxycycline 100 mg twice daily for 10 days

Infection likely due to enteric organisms or

age > 35

Ofloxacin 300 mg twice daily for 10 days

or

Levofloxacin 500 mg once daily for 10 days

Papillomavirus

Treatment

- Primary goal for treatment of visible warts is the removal of symptomatic warts
- Therapy may reduce but probably does not eradicate infectivity
- Difficult to determine if treatment reduces transmission
 - No laboratory marker of infectivity
 - Variable results utilizing viral DNA

Papillomavirus

- Source of therapy guided by preference of patient, experience of provider, resources
- No evidence that any regimen is superior
- Locally developed/monitored treatment algorithms associated with improved clinical outcomes
- Acceptable alternative may be to observe; possible regression/uncertain transmission

Papillomavirus

Patient-applied

Podofilox 0.5% solution or gel

or

Imiquimod 5% cream

Provider-administered

Cryotherapy

or

Podophyllin resin 10-25%

or

Trichloroacetic or Bichloroacetic acid
80-90%

or

Surgical removal



Papillomavirus

Vaginal warts

Cryotherapy or TCA/BCA 80-90%

Urethral meatal warts

Cryotherapy or podophyllin 10-25%

Anal warts

Cryotherapy or TCA/BCA 80-90%

Papillomavirus

Treatment in Pregnancy

- Imiquimod, podophyllin, podofilox should not be used in pregnancy
- Many specialists advocate wart removal due to possible proliferation and friability
- HPV types 6 and 11 can cause respiratory papillomatosis in infants and children
- Preventative value of cesarean section is unknown; may be indicated for pelvic outlet obstruction

Cervical Cancer Screening

Women with History of STDs

- Women with STD hx may be at increased risk of cervical cancer
- Clinics that offer pap screening without colposcopic f/u should arrange for referral
- Management of abnormal pap provided per Interim Guidelines for Management of Abnormal Cervical Cytology (NCI Consensus Panel)
- Emerging data support HPV testing for the triage of women with ASCUS Pap tests

Vaccine Preventable STDs

Hepatitis A

- MSM
- Illegal drug users
- Chronic liver disease, hepatitis B and C infection

Vaccine Preventable STDs

Hepatitis B

- History of STD, multiple sex partners, sexually active MSM
- Illegal drug use
- Household members, sex partners of those with chronic hepatitis B
- Hemodialysis, occupational blood exposure

Proctitis

- Anoscopic examination for HSV, GC, CT, syphilis
- Painful perianal or mucosal ulceration on anoscopy- presumptive therapy for HSV
- **Recommended regimen**
 - Ceftriaxone 125 mg IM PLUS
 - Doxycycline 100 mg twice daily
 - for 10 days



Pediculosis Pubis

- Pruritus or lice or nits on pubic hair
- Decontaminate bedding and clothing
- **Recommended regimens**
 - Permethrin 1%
 - Lindane 1% shampoo
 - Pyrethrins with piperonyl butoxide
- Re-treatment may be necessary if sx persist
- Treatment of sex partners within the last month



Scabies

- Predominant symptom is pruritus
- **Recommended regimen**
 - Permethrin cream 5%
- **Alternative regimen**
 - Lindane 1% or Ivermectin 200 ug/kg, repeat in 2 wks
- Sex partners and household contacts within the preceding month should be treated

Scabies

Persistent Symptoms

- Rash and pruritus may persist for 2 wks
- Persistence > 2 wks: tx failure, resistance, reinfection, drug allergy, cross reactivity with household mites
- Attention to fingernails of infected patients
- Treat close contacts empirically
- Wash linens, bedding, clothing

Norwegian Scabies

- Aggressive infestation in immunodeficient, debilitated, or malnourished
- Greater transmissibility
- Substantial treatment failure with topical scabicide or oral ivermectin; treatment recommendations-- combination topical scabicide with ivermectin or repeated treatments with ivermectin

Sexual Assault

Evaluation

- Cultures for GC and CT from sites of penetration; if NAAT used, positive test should be confirmed by a second FDA licensed NAAT utilizing a different primer sequence
- Wet mount and culture for trichomonias
- HIV, hepatitis, and syphilis serology

Sexual Assault

- Suggested preventative therapy
 - Postexposure hepatitis B vaccination
 - Empiric regimen for chlamydia, gonorrhea, trichomonas, and BV
- Efficacy of antimicrobial regimens in the prevention of genitourinary infections after sexual assault has not been evaluated



Ophthalmia Neonatorum Prophylaxis

Silver nitrate 1% aqueous solution in a
single application

or

Erythromycin 0.5% ophthalmic ointment in
a single application

or

Tetracycline ophthalmic ointment 1% in a
single application