

# 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

# Neurosyphilis

## 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*

# Neurosyphilis

## 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

# Neurosyphilis

## 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  $\geq 5$  WBC per oil immersion field
- Positive leukocyte esterase on first void urine or  $\geq 10$  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  $\leq 25$  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-immunocomprised

### 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