Bacterial/Protozoal STDs and HIV

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Bacterial/Protozoal STDs
- Chlamydia
- Gonorrhea
- Pelvic Inflammatory Disease (PID)
- Syphilis
- Trichomoniasis

Chlamydia and Gonorrhea
- Bacterial infections treated with antibiotics
- Infection of the cervix and the upper genital tract in women
- Urethral discharge in men
- 75% of girls and 50% of boys with chlamydia have no symptoms
- Increases risk of acquiring HIV

Chlamydia & Gonorrhea: Epidemiology
- The most common bacterial STDs in U.S.
- Majority of those infected have no sx.
- A disease of young people: highest prevalence < 25 years of age
- Increased risk of HIV acquisition

Treatment of Bacterial/Protozoal STDs
Sexually Transmitted Disease Treatment Guidelines, 2010
Centers for Disease Control and Prevention
MMWR December 17, 2010; Vol 59, RR-12; 1-116

Chlamydia—Rates by Age and Sex, United States, 2009

- Men
  - 20-24: 1,120.6
  - 25-29: 573.3
  - 30-34: 286.0
  - 35-39: 141.3
  - 40-44: 81.9
  - 45-54: 36.0
  - 55-64: 36.0
  - 65+: 219.8
- Women
  - 20-24: 3,329.3
  - 25-29: 3,273.9
  - 30-34: 1,234.0
  - 35-39: 511.7
  - 40-44: 205.8
  - 45-54: 88.4
  - 55-64: 32.0
  - 65+: 593.4
### Chlamydia & Gonorrhea: Screening Recommendations

- All sexually-active women < 25 years old
- Older women with risk factors (e.g. those who have a new sex partner or multiple sex partners)
- Screen Annually

### Chlamydia: Treatment

- **Recommended Regimens (oral)**
  - Azithromycin 1 gram single dose OR
  - Doxycycline 100 mg twice a day x 7 days

- **Recommended Regimens in Pregnancy (oral)**
  - Azithromycin 1 gram single dose OR
  - Amoxicillin 500 mg three/day x 7 days

### Gonorrhea: Treatment

- **Single dose:**
  - Ceftriaxone 250 mg IM
  - Cefixime 400 mg p.o.

- If “severe allergic reactions to penicillins or cephalosporins”, consider azithromycin 2 grams

### Chlamydia & Gonorrhea: Repeat Testing

- **Test of Cure (repeat testing 3-4 weeks after completion of therapy) not recommended except**
  - Pregnancy
  - Question of compliance
  - Persistent symptoms
  - Suspect re-infection

- Non-culture tests conducted less than 3 weeks after Tx could yield false positive results (continued excretion of dead organisms)
- Re-screening is advised 3 months after Tx and annually
Chlamydia & Gonorrhea: Prevention
- Infection transmitted via infected body fluids.
- Condoms may reduce but do not eliminate risk of transmission

Pelvic Inflammatory Disease: Description
An inflammation of the female upper reproductive tract caused by the migration of infectious agents from the vagina and/or cervix to the uterus, fallopian tubes, adnexae and peritoneum.

Pelvic Inflammatory Disease: Epidemiology
- GC and/or Chlamydia cause 80% of PID in women 25 years or younger.
- Mixed infections with normal vaginal flora, including anaerobes.

Pelvic Inflammatory Disease: Diagnosis
- Key is high index of suspicion.
- Symptoms: Mild cases may be asymptomatic or go unrecognized. Lower abdominal pain, vaginal discharge, fever.
- Signs: lower abdominal tenderness, cervical motion tenderness, adnexal tenderness

Pelvic Inflammatory Disease: Treatment Considerations
- HCPs should maintain a low threshold for Dx and Tx of PID
  - Difficult to diagnose
  - Potential for significant damage to reproductive health, even by apparently mild or subclinical PID
Pelvic Inflammatory Disease: Treatment Considerations

- Empiric Tx of PID should be initiated in sexually active women at risk for STDs if she presents with pelvic or lower abd. pain without other cause identified, plus 1 or more of **minimum criteria** are present:
  - cervical motion tenderness OR
  - uterine tenderness OR
  - adnexal tenderness

Pelvic Inflammatory Disease: Complications

- Peritonitis and exploratory surgery
- Infertility (20% of pts.)
- Chronic Pelvic Pain (19% of pts.)
- Ectopic Pregnancy (8% of pts.)

Syphilis

Organism: bacterium Treponema pallidum
Transmission: during sexual activity (oral, anal, vaginal) only when primary (chancre) or secondary mucocutaneous syphilitic lesions are present, usually during 1st year of infection
Increased risk of HIV acquisition

Syphilis - *Treponema pallidum*
Syphilis: Stages

Primary: Usually a single painless chancre on external genitalia, vagina, anus, lips, or mouth; usually heals spontaneously but w/o treatment progresses
Secondary: skin rash, mucocutaneous lesions, lymphadenopathy

Tertiary: cardiac, ophthalmic, auditory abnormalities and gummatous lesions
Latent: seroreactivity w/o other evidence of disease
CNS disease: can occur during any stage of syphilis

Syphilis: Epidemiology

- Declining rates of new infections in most parts of the country.
- Highest concentrations in high risk core groups.
- Concerted effort to eradicate disease is being mounted by CDC.

Syphilis: Incidence

- Oct 1999: CDC initiated the National Plan To Eliminate Syphilis in the U.S.
- Lowest rate in 2000 since reporting began in 1941
- Unfortunately, after declining every year since 1990, # of P and S syphilis increased each year since 2001--81% from 2001 to 2007
- Primarily the result of increases in cases among men who have sex with men, but for the past three years, also in women

Syphilis: Congenital

After reaching an all time low in 2005, the rate of congenital syphilis has increased; a slight decrease is reported between 2008 & 2009

2005--339 cases
2006--382 cases
2007--430 cases
2008--431 cases
2009--427 cases
**Syphilis: Diagnosis**

Early syphilis: darkfield exam of exudate and direct fluorescent antibody tests

**Serologic:**
- Nonreponemal (VDRL and RPR)
  - Correlate with disease activity
  - Usually become nonreactive after treatment, but in some patients can persist at a low titer
- Treponemal (FTA-ABS and TP-PA)
  - Remain reactive in most regardless of treatment or disease activity
  - Do not correlate with disease activity

**Syphilis: Treatment**

- Penicillin G administered parenterally preferred treatment for all stages and the only treatment with documented efficacy in pregnancy (if pregnant & penicillin allergic, desensitize & treat with penicillin)
- Longterm immunity does not occur

**Syphilis Treatment**

- Primary & Secondary
  - Benzathine penicillin G: 2.4 million units IM x 1
- Tertiary
  - Benzathine penicillin G: 2.4 million units IM weekly x 3
- Early Latent (acquired within 1 yr.)
  - Benzathine penicillin G: 2.4 million units IM x 1
- Late Latent (> 1 yr or unknown duration)
  - Benzathine penicillin G: 2.4 million units IM weekly x 3 (7.2 million units total)

**Trichomoniasis**

**Organism:** Trichomonas vaginalis (flagellated parasite)

**Incidence:** 7.4 million cases estimated annually (most common STD)

**S/Sx:** females: vaginitis, cervicitis, discharge; males: urethritis; usu. asymptomatic

**Trichomoniasis: Diagnosis**

- **Symptoms:** vaginal discharge, itching, vaginal irritation, odor, dysuria.
- **Signs:** Frothy discharge, vulvar/vaginal edema, vulvar/vaginal erythema, “strawberry cervix.”
- **Diagnosis:**
  - Wet prep of vaginal secretions: motile single-celled flagellate org.
  - Culture available
  - FDA cleared tests of vaginal secretions:
    - OSOM Trichomonas Rapid Test
    - Affirm VP III

**Trichomoniasis: Treatment**

**Recommended**
- Metronidazole 2 gram po x 1
- Tinidazole 2 g po x 1

**Alternative**
- Metronidazole 500 mg po bid x 7 days

Metronidazole gel not recommended
Trichomoniasis: Treatment

- Certain strains of have decreased susceptibility to metronidazole but respond to higher doses
- Treatment failures: retreat with Metronidazole 500 mg bid x 7 days Metronidazole or Tinidazole 2 gram dose once a day for 5 days

Trichomoniasis: Complications

- Adverse pregnancy outcomes:
  - Premature rupture of membranes
  - Premature labor
  - Low birthweight
- Increases one’s risk of contracting HIV.

Human Immunodeficiency Virus (HIV)

- HIV infection
  - The virus is in the body
  - May not know it because he/she feels fine
  - Can give it to others during sex or IV drug use (sharing needles)
- AIDS
  - The virus has attacked the immune system and decreased the number of CD4+ T cells
  - Can become very sick with other infections and/or cancers
  - Can be fatal

HIV/AIDS

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HIV/AIDS Statistics

- WORLDWIDE
  - 6,800 new infections daily with HIV
  - 5,700 deaths daily
  - In 2008, 2 million deaths, 2.7 million newly infected, and 33 million living with HIV
- UNITED STATES
  - 37,151 new cases of AIDS in 2008
  - 459,594 persons living with AIDS in 2007
  - As of 2007, 576,384 have died of AIDS
  - 1.3 million estimated to be living with HIV in 2007

How Does Someone Get HIV

- Men having sex with men (MSM)
- High risk heterosexual intercourse (male/female where one of the partners is infected or at high-risk for HIV)
- Shared needles with infected drug user

NOTE: HIV infection from blood transfusions has essentially been eliminated with thorough testing of blood. Transmission from HIV infected mother to newborn dramatically reduced with treatment during pregnancy.

June 1, 1981: MMWR (CDC) report of *Pneumocystis carinii* pneumonia in 5 men in Los Angeles

Why can’t I just get a vaccination to protect myself?

HIV Vaccine Developments
- Must be targeted at regions of virus with low mutation rates
- HIV has a very high mutation rate
- Marketable vaccine not expected for years

STDs Can Be Confusing!!!!
New U.S. Cases of STDs

<table>
<thead>
<tr>
<th>STD</th>
<th># Infected/Year</th>
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<tbody>
<tr>
<td>Trichomoniasis</td>
<td>7,400,000</td>
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<tr>
<td>HPV</td>
<td>6,200,000</td>
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<tr>
<td>Chlamydia</td>
<td>2,800,000</td>
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<tr>
<td>HSV-2</td>
<td>1,600,000</td>
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<tr>
<td>Gonorrhea</td>
<td>718,000</td>
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<tr>
<td>Hepatitis B</td>
<td>78,000</td>
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<tr>
<td>Syphilis</td>
<td>70,000</td>
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<tr>
<td>HIV</td>
<td>40,000</td>
</tr>
<tr>
<td>Hepatitis C</td>
<td>25,000</td>
</tr>
</tbody>
</table>

Total new sexually transmitted infections each year: 18,931,000

ASYMPTOMATIC CARRIER STATES

Most people infected with STDs don’t even know it!!!!!!

STDs: No Symptoms

- Chlamydia: 75% of girls & 50% of boys
- Herpes: 90%
- HPV: over 90%
- HIV: approx. 25%

If you don’t know you have an STD, you can pass it on to someone without knowing it!!
You could have an STD, not know it, and then give it to your future spouse!!!

Reporting and Confidentiality

Reportable Diseases in EVERY state:
- Syphilis
- Gonorrhea
- Chlamydia
- Chancroid
- HIV & Aids

Clinicians should be familiar with their own state’s requirements as they may differ with other requirements.

Recommended Screening

- Cervical Cancer Screening with Pap test
  - USPSTF & ACOG: begin at age 21
  - American Cancer Society: begin 3 years after initiation of sex but no later than age 21
- Chlamydia & gonorrhea
  - All sexually active females aged ≤ 25 years-annually
  - Others at risk
    - History of previous infection
    - Presence of another STD
    - New or multiple sex partners
    - Inconsistent condom use
    - Commercial sex worker
    - Drug use

Recommended Screening - Pregnant Women

- HIV at initial contact & repeat preferably before 36 weeks’ gestation
- Serologic test for syphilis
- Hepatitis B surface antigen (HBsAg)
- Chlamydia
- Gonorrhea
- Pap test
- Hepatitis C if at risk
### Recommended Screening-MSMs

**Annual**
- HIV serology
- Syphilis serology
- Urethral infection: chlamydia & gonorrhea
- Rectal infection: chlamydia & gonorrhea
- Pharyngeal infection: gonorrhea
- Can consider screening for anal cytologic abnormalities
- HBsAg

Vaccines: hepatitis A & B

### Recommended Screening
**Women who have Sex with Women**

**Annual**
- Chlamydia
- Syphilis

Vaccines: HPV series

Note: BV more common in WSWs, routine screening not recommended, nor is treatment of partner.

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**Scott & White Worth the Wait®**

**SEXUALLY TRANSMITTED DISEASES:**

**FACTS You Need To Know!**

Developed by the Scott & White Sex Education Program
Scott & White Memorial Hospital and Clinic

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[www.worththewait.org](http://www.worththewait.org)

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