Urological Disorders
Overview

- Urinary tract infection
- Urinalysis
- Hematuria
- Urolithiasis
- Urinary incontinence
- Acute pyelonephritis
- Kidney function
URINARY TRACT INFECTION

- Infection and inflammation of the bladder
- Presence of bacteria in the urine

Etiology
- Bacteria: *E. coli*, *P. mirabilis*, *K. pneumoniae*, *Enterobacter*, and *S. saprophyticus*
- More common cause: Gram negative bacteria from colon (80% of infections)

Symptoms, Signs
- Dysuria: Burning and/or pain during urination
- Urgency, frequency
- Hematuria
- Foul-smelling urine
- Sensation of incomplete emptying, scant voiding
- Lower abdominal pain and/or back pain

Diagnostic Studies
- GOOD SPECIMEN is KEY
- Urinalysis: WBCs
- Midstream: > 100,000 organisms
- Cath: > 1,000 organisms
- Urine culture:
  1. Recurrent or refractory infections
  2. Children and Pregnant women
  3. Elderly

Nitrites = Bacteria
Specific: but only 50% sensitive

<table>
<thead>
<tr>
<th>Nitrates</th>
<th>Only Gram Negative Bacteria</th>
<th>Nitrites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normally found in urine</td>
<td>Never in urine UNLESS bacteria produce them!</td>
<td></td>
</tr>
</tbody>
</table>

WBCs, Pyuria = Infection
- Most reliable indicator of infection
- 95% sensitive
- > 10 WBC per HPF*/spun sample
- USUALLY indicates UTI

*high power field
Leukocyte Esterase
- (+) Tests for enzyme present in WBCs
- Usually indicates UTI
- 60-90% specific

A Day in Clinical Practice

How would you interpret these UAs?

1. Blood (-)
2. Nitrites (+)
3. Leukos (+)
Answer: ___________________________________

1. Blood (-)
2. Nitrites (-)
3. Leukos (+)
Answer: ___________________________________

1. Blood (+)
2. Nitrites (-)
3. Leukos (-)
Answer: ___________________________________

1. Blood (-)
2. Nitrites (-)
3. Leukos (-)
Answer: ___________________________________

Patient complains of frequency and urgency???
Answer: ___________________________________
What antibiotic for UTI?

<table>
<thead>
<tr>
<th>Antibiotic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bactrim</td>
<td><em>E. coli</em> rates of resistance &gt; 20% in most locales around US; so mostly inappropriate; do not use &lt; 2 months of age</td>
</tr>
<tr>
<td>Cephalosporins</td>
<td>Reserve for children, pregnant women; high rates of resistance with <em>E. coli</em></td>
</tr>
<tr>
<td>Nitrofurantoin</td>
<td>1st choice for uncomplicated UTI; Pregnancy Category B</td>
</tr>
<tr>
<td>Ciprofloxacin,</td>
<td>Low rates of resistance; Category C; watch for QT</td>
</tr>
<tr>
<td>Levofloxacin</td>
<td>prolongation; Not for use &lt; 18 year olds; Not for pregnant patients</td>
</tr>
</tbody>
</table>

A Day In Clinical Practice

*A 35 year old type 1 diabetic has a urinary tract infection. How many days should she be treated?*

1. 1 day is appropriate
2. 3 days
3. 5 days
4. 7-10 days

**How long to treat?**
- Women: 3 day therapy usually adequate if uncomplicated
- Men: treat for 7-10 days
- Complicated UTI or Comorbidities: Consider 7-10 days

**What else?**
- Antispasmodic for dysuria
- Phenazopyridine (Pyridium®) or
- Flavoxate (Urispas®)
- Discolors urine orange!!!

**Health Promotion**
- Prompt treatment
- Hydration: especially for elders
  - Avoid bladder irritants: caffeine, alcohol, carbonation
- Cranberry juice: may NOT prevent recurrent UTI (Cochrane review 2012)
- VOID: after sexual intercourse
  - Extra lubrication (non-irritating)
- F/U: if blood present on diagnosis
HEMURRIA

- Gross hematuria
- Microscopic hematuria
- 85% of bladder cancer presents with hematuria

Etiology in Adults
- Malignant neoplasms (renal and bladder)
- Infection
- Renal calculi
- Coagulopathy
- Glomerular disease
- Hydronephrosis
- Polycystic kidneys
- Trauma
- Medications
- Benign prostatic hyperplasia (BPH)
- Exercise-induced (resolves in 72 hours)

Risk Factors for Malignancy
- Age > 40 years
- Smoking history
- Occupational exposure
- Chronic cystitis
- History of pelvic irradiation
- History of analgesic abuse

Consultation/Referral
- Hematuria very common
- Age > 40 or other risk factors for malignancy
- Consider referral to Urologist

KIDNEY ISSUES

A Day In Clinical Practice

A patient presents with classic symptoms of a kidney stone. What lab abnormality is most common?

1. Elevated white count on CBC
2. Bacteria present on UA
3. Hematuria
4. Positive nitrites
Management
Toradol injection if not contraindicated, then,
• Refer to ER
• Refer for hospitalization if:
  o Infection present
  o Stone > 6 mm in diameter
  o Excessive nausea and vomiting present
• Urological consult if:
  o Obstruction suspected
  o If symptoms persist > 3-4 days
• Consider an alpha blocker (Tamsulosin (Flomax) --- Off label use!) or a CCB (nifedipine)

Acute Pyelonephritis
• Infection of the upper urinary tract and renal parenchyma

Risk Factors in Adults
• Untreated or undertreated UTI
• Urinary tract abnormalities
• Elderly
• Fecal incontinence
• Pregnancy

A Day In Clinical Practice

What findings might be present in a patient who has pyelonephritis? Select all that apply.

1. CVA tenderness
2. Fever
3. Pyuria
4. White cells in urine
5. Trichomonads
6. Casts

Diagnostic Studies
• Urinalysis: pyuria, possibly hematuria, and mild proteinuria
• Urine culture with sensitivity!!!!
• CBC: leukocytosis
• CVA tenderness
• Fever
• Sed Rate (ESR)
Management: Pyelonephritis
- Culture: before starting antibiotic!
- Quinolones: the only oral antimicrobials recommended for outpatient treatment
- If UNABLE to take quinolones:
  - Ceftriaxone 1 gm stat plus Augmentin x 14 d
- Hospitalize: if patient appears toxic

Measure of Kidney Function: Creatinine
- Creatinine production is related to muscle mass
- Decreases with age and loss of muscle mass
- If high muscle mass, then creatinine may be FALSELY normal (and actually be low)

Many Factors Affect Creatinine Levels
- CrCl (mL/min): is a better measure of kidney function
- 24 hour collection most accurate, but inconvenient!
- GFR (Glomerular filtration rate) = CrCl estimate (Fairly accurate)

GFR is usually estimated by Labs: eGFR
- eGFR Normal Range > 60mL/min/1.73m²
- ~38% patients ≥ 70 years without HTN or DM, had GFRs of < 60 mL/min/1.73m²

Excretion
- Many DRUGS require dosage adjustments: KNOW the DRUGS YOU PRESCRIBE!!!
  - Allopurinol
  - Many Antibiotics
  - Digoxin
  - Lithium, Gabapentin
  - H2 blockers
  - Anti-arrhythmics

Additional Notes:
A Day In Clinical Practice

Patient complains of fever and dark urine. Urine specimen sent to laboratory.

Laboratory Urinalysis Report
- Blood (+)
- Protein (+)
- Nitrites (-)
- Leukos (-)
- WBC casts present (+)

What might be the significance of white cell casts? Select all that apply.

1. Urinary tract infection
2. No clinical significance
3. Inadequate hydration
4. Pyelonephritis
5. Urinary tract injury
6. Vigorous exercise

Casts

<table>
<thead>
<tr>
<th>Type of Cast</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyaline</td>
<td>Most common; low urine flow, dehydration, vigorous exercise</td>
</tr>
<tr>
<td>Crystals</td>
<td>No clinical significance</td>
</tr>
<tr>
<td>RBC</td>
<td>Always pathological; consider glomerulonephritis, urinary tract injury</td>
</tr>
<tr>
<td>WBC</td>
<td>Consider inflammation (nephritis, post-Strept glomerulonephritis) or infection, pyelonephritis (not UTI)</td>
</tr>
<tr>
<td>Epithelial</td>
<td>Acute tubular necrosis (poisoning), hepatitis, something that causes epithelial cell death</td>
</tr>
</tbody>
</table>

URINARY INCONTINENCE

- Involuntary loss of urine from the urethra

Etiology
- Urge incontinence (detrusor instability)
- Stress incontinence (sphincter incompetence)
- Mixed-MOST common (components of urge and stress)

Treatment
AVOID:
- Alcohol
- Carbonation
- Coffee or tea with or without caffeine
- Citrus juices (really?)
- Artificial sweeteners?
Treatment: Urge, Stress, Mixed - Behavioral Therapy
- Weight loss: especially for stress incontinence
- Regular voiding: But NOT frequent!!! (WHY?)
- Pelvic floor exercises (Kegel exercises):
  - 3 sets of 10-12 contractions for 5 seconds each
  - Daily x 3 months
- Minimize fluids after dinner
- Take diuretics in afternoon, NOT at night

OAB Management
- Anticholinergics: (Urge, mixed)
  - Side effects: Dry mouth, eyes, GI
  - “Ode to anticholinergics”
  - Mirabegron (Myrbetriq) fewer sacrum (B3)
- Estrogen for post-menopausal OAB
- Biofeedback
- Pelvic PT
- Surgery (Stress)

Resources for Urological Disorders
- CareOnPoint (COP): www.careonpoint.com
- Clinical Guidelines in Primary Care; Amelie Hollier, DNP, FNP-BC, FAANP (2016)
Sexually Transmitted Diseases (STDs)
Or
Sexually Transmitted Infections (STIs)
## OVERVIEW

**What to know for each STD**
- Symptoms: ulcer, discharge, urethritis, etc.
- Diagnostic studies: swab, serology, etc.
- Management and treatment: 1 g azithromycin, 250 mg ceftriaxone, etc.

2015 STD Guidelines [www.cdc.gov/STD/treatment](http://www.cdc.gov/STD/treatment)

### Overview
- Human immunodeficiency virus
- Bacterial vaginosis
- Chlamydia
- Gonorrhea
- Trichomoniasis
- Syphilis
- Sexual assault evaluation

2015 STD Guidelines [www.cdc.gov/STD/treatment](http://www.cdc.gov/STD/treatment)

### Name that STI

<table>
<thead>
<tr>
<th>Screening test is an ELISA.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Produces a malodorous vaginal discharge. (Clue: consider 2 STDs)</td>
<td></td>
</tr>
<tr>
<td>DNA probe is used for screening. (Clue: consider 2 STDs)</td>
<td></td>
</tr>
<tr>
<td>RPR is used for screening.</td>
<td></td>
</tr>
<tr>
<td>FTA-ABS, MHA-TP are diagnostic tests for this STI.</td>
<td></td>
</tr>
<tr>
<td>Treated with 2.4 million units of penicillin, IM. (Hint: treatment for early disease)</td>
<td></td>
</tr>
<tr>
<td>Treated with 3 doses of benzathine penicillin spaced at weekly intervals. (Hint: treatment for late or unknown duration of this disease)</td>
<td></td>
</tr>
<tr>
<td>Associated with positive whiff-amine test.</td>
<td></td>
</tr>
<tr>
<td>Confirmatory test is Western Blot.</td>
<td></td>
</tr>
<tr>
<td>Treated with metronidazole 500 mg BID for 7 days. (Consider 2 STDs)</td>
<td></td>
</tr>
<tr>
<td>Etiologic agent is a virus. (Consider 2 STDs)</td>
<td></td>
</tr>
<tr>
<td>Clue cells present on saline wet mount.</td>
<td></td>
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<tr>
<td>This STD produces a discharge. (Consider 3 STDs)</td>
<td></td>
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<tr>
<td>STDs</td>
<td></td>
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<td>------</td>
<td></td>
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<tr>
<td>Absent or decreased lactobacilli.</td>
<td></td>
</tr>
<tr>
<td>Wet prep used for diagnosis.</td>
<td></td>
</tr>
<tr>
<td>Treated with acyclovir, valacyclovir, and famciclovir with equal efficacy.</td>
<td></td>
</tr>
<tr>
<td>Treated with 2 grams of metronidazole as a single dose. (This regimen no longer used to treat BV.)</td>
<td></td>
</tr>
<tr>
<td>Maybe associated with involuntary weight loss.</td>
<td></td>
</tr>
<tr>
<td>Can produce rash on palms/soles of feet.</td>
<td></td>
</tr>
<tr>
<td>Produces a chancre.</td>
<td></td>
</tr>
<tr>
<td>Produces vesicles on mucous membranes.</td>
<td></td>
</tr>
<tr>
<td>What STI is associated with a POSITIVE “Chandelier test”?</td>
<td></td>
</tr>
</tbody>
</table>

### Additional Notes:

| Day 2: Tomorrow  
| 8:15 – 8:45 AM |
| Exam Strategies |
| CV starts at 8:45 AM |

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The information below is for your review.  
This content is not part of the recorded course.  
Review info on HIV before exam: 
HUMAN IMMUNODEFICIENCY VIRUS INFECTION 
PRIMARY CARE OF THE INFECTED ADULT

Human Immunodeficiency Virus Infection (HIV): US Stats
- 16% of 1.2 million with HIV are unaware they are infected
- 50,000 newly diagnosed each year
- 25% report NO HIGH RISK behaviors
- Therefore….CDC recommends universal screening!!!

HIV: Diagnosis
- Screening tests: EIA or ELISA
- Western Blot: to confirm Positive EIA
- HIV RNA: if above tests are NEGATIVE OR if “accute retroviral syndrome” is suspected (50-80% symptomatic)
- If already diagnosed, request records:
  o treatment history, prior drug resistance testing, virologic and immune responses to treatment

Primary Care of HIV Infected Adults - History
- 30% with history of Hepatitis C
- 8% with history of Hepatitis B
- Liver disease progresses faster AND affects choice of antiretroviral therapy
- TB: HIV is significant risk factor for reactivation of latent TB
- STIs history

Primary Care of HIV Infected Adults - Immunizations
- Need pneumococcal, tetanus, Hep A/B; Flu annually
- Never administer live or attenuated vaccines!!!!!
- Consider immunization for close contacts (exceptions: oral polio, smallpox)

Primary Care of HIV Infected Adults - Lab Testing
- CD4 count-baseline; repeat once and usually q 3-4 months (Count determines need for prophylaxis against opportunistic infections)
- Viral Load: need baseline and q 3-4 months (If on ART, goal is undetectable viral load within 16-24 weeks of therapy)
- Screen for hepatitis: A, B, C
- Glucose and lipid panel (consequence of ART use)
- STD assessment
Primary Care of HIV Infected Adults - Prophylaxis

- *Pneumocystis carinii (jiroveci)* (CD4 < 200)
  - TMP-SMX first line one DS daily (prevents toxoplasmosis, Legionella, Salmonella, others)
- MAC (Mycobacterium avium complex) (CD4 < 50)
  - Azithromycin, clarithromycin once daily

Human Immunodeficiency Virus Infection – Initial Presentation

**Assessment Findings - Initial Infection (lasts <14 days)**

- Fever (96%)
- Pharyngitis (70%)
- Non-pruritic macular skin rash (70%)
- Malaise
- Headache
- Lymphadenopathy (74%)

**Very Early Infection**

- Acute retroviral syndrome: self-limiting viral type syndrome occurring 2-4 weeks post-infection
- HIV test will be negative during this time
- If HCP is suspicious, perform HIV plasma RNA – this detects viral load and presence of HIV (CDC does not recommend this be used for diagnosis---if positive, perform another HIV test)

**A Day In Clinical Practice**

_A 20 year old male has suspected acute infection of HIV. How should he be screened?_

1. Order an HIV viral load
2. Order HIV IgM antibodies
3. Order an enzyme immunoassay
4. Order a Western blot

**Assessment Findings - Established HIV**

- Anemia, leukopenia
- Thrombocytopenia
- Involuntary weight loss
- Persistent diarrhea
- Severe chronic fatigue
- Dementia
- Peripheral neuropathy
- Herpes zoster
- Presence of opportunistic infections
Management of Sex Partners/IV Drug Partners
- Confidentiality of patient is ALWAYS protected!
- Encourage patient to notify partner(s)
- Rationale: early notification means early diagnosis and treatment and risk reducing behaviors
- If unwilling to notify: health department attempts to ID partners based on name, address, description, etc.

**BACTERIAL VAGINOSIS (BV)**
- Polymicrobial clinical syndrome resulting from replacement of normal vaginal flora with high concentrations of anaerobic bacteria (100-1000 fold increase)
- Associated with multiple sex partners, new partners, douching, IUCs
- Sexually associated, NOT sexually transmitted

Associated Problems
- Increased risk of acquiring:
  - STIs
  - UTIs
  - Post gynecologic surgery infections
  - Preterm labor

Causative Organisms
- *Prevotella, Mobiluncus, G. vaginalis, atopobium, and many other bacteria*

Assessment Findings
- Asymptomatic in about 50% of women
- Profuse grayish-white *malodorous vaginal discharge*
- Unpleasant, fishy, or musty vaginal odor
- Increased odor after intercourse
- Pruritus and burning of vulvovaginal area

Diagnostic Studies
- Amsel’s criteria for diagnosis requires 3 of the following S/s:
  - Homogenous, white, discharge coating vulva/vagina
  - Vaginal pH of > 4.7
  - Fishy odor of vaginal discharge before or after addition of KOH (“whiff test”)
  - Clue cells on microscopic exam, 1 or more epithelial cells coated with bacteria, obscuring borders

Additional Notes:
Management

- Screen for other STIs PER CDC 2015!
- Not Pregnant or Pregnant:
  - Metronidazole 500 mg oral BID 7 days
  - Metronidazole vaginal gel 0.75% pv x 5 days
  - Clindamycin 300 mg oral BID x 7 days
  - Clindamycin vaginal cream, single dose or x 7 d
- Avoid in Pregnancy:
  - Tinidazole 1 gm oral x 5 days, or 2 gms x 3 days Category C
- With metronidazole or tinidazole, NO ALCOHOL until 24 hours after last dose (72 hours after tinidazole)
- Avoid sexual intercourse until after treatment
- CONDOM USE increases cure rates!
- Avoid douching to prevent recurrences
- Treat symptomatic patients incl. pregnant pts
- KEY: if educate pts about symptoms most will be symptomatic
- Recurrent BV: rule out HIV

<table>
<thead>
<tr>
<th>CHLAMYDIA</th>
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</thead>
<tbody>
<tr>
<td>- 1.2 million infections per year</td>
</tr>
<tr>
<td>- Most frequently reported infectious disease in US, rates increasing in US</td>
</tr>
<tr>
<td>- Most common in &lt; 25 year olds</td>
</tr>
<tr>
<td>- Serious sequelae: PID, ectopic pregnancy, infertility, pelvic pain</td>
</tr>
<tr>
<td>- Most asymptomatic (75% females)</td>
</tr>
</tbody>
</table>

Assessment Findings

- Mucopurulent cervicitis
- Edematous, congested, friable cervix
- Vaginal discharge
- Cervical motion tenderness
- Dysuria/urethritis
- Salpingitis
- Proctitis, epididymitis
- Abnormal vaginal bleeding
- Pelvic pain, prostatitis

Diagnostic Studies

- Screen all sexually active females < 25 yearly and ALL pregnant women
- Rescreen in 3 months (after Rx): due to high rates of re-infection (NEW)
- F/u 1 month: if pg, sx persist, reinfection
- NAAT: most sensitive and can be used with urine, vaginal swabs
- DNA probe
- Culture, urine testing OK
Management
- Azithromycin 1 gram Oral x 1 (pregnancy) or
- Doxycycline 100 mg BID 7 days or
- Amoxicillin 500 mg Oral TID x 7 d (pg)
- If epididymitis involved, Doxy x 10-14 d
- REFRAIN from intercourse for 7 days after treatment is completed
- REFER sexual contacts in last 60 days

GONORRHEA
- A sexually transmitted infection: producing a purulent inflammation of mucous membranes
- Underdiagnosed in US
- Uncommon among “monogamous heterosexual populations”
- RISKS
  - Men having sex with men (MSM)
  - IV drug use, other high risk behaviors

Assessment Findings
- Males:
  - Purulent urethral discharge
  - Dysuria
  - Testicular pain
  - Asymptomatic
- Females:
  - Often asymptomatic
  - Endocervical discharge
  - Dysuria
  - Bartholin’s gland abscess
  - Abnormal vaginal bleeding
  - Abdominal/pelvic pain
  - Adnexal tenderness
  - Cervical motion tenderness

Diagnostic Studies
- Gram stain of exudate
- DNA probe
- NAAT
- Culture of exudate or joint aspirate on Thayer-Martin agar (chocolate agar)

Additional Notes:
Management
- Ceftriaxone (Rocephin®) 250 mg OR
- Cefixime (alternative) less effective against oral GC
  - Test of cure required (2 weeks)
- PLUS
  - Azithromycin 1 gm oral x 1 OR
  - Doxycycline 100 mg oral BID x 7 days (dual purpose for chlamydia and GC)

<table>
<thead>
<tr>
<th>TRICHOMONIASIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexually transmitted disease which can infect vagina, Skene’s ducts, and lower genitourinary tract in women and lower genitourinary tract in men</td>
</tr>
</tbody>
</table>

Assessment Findings in Trichomoniasis: Females
- Asymptomatic (sometimes for decades)
- Vaginal discharge: frothy, yellow-green (often variable)
- Vulvar irritation
- Dysuria
- Cervical petechiae = “strawberry cervix”

Assessment Findings in Trichomoniasis: Males
- Asymptomatic
- Urethral discharge
- Dysuria
- Epididymitis
- Prostatitis

Diagnostic Studies
- Wet Prep (60-70% sensitive)
  - Visualization of trichomonads as flagellated, motile cells slightly larger than WBCs (avoid drying of saline)
  - Polymorphonuclear cells
- Vaginal pH: > 4.6
- Pap: (unreliable)
- FDA cleared POC tests for trich in women: Affirm, Osom
- PCR testing of urine for men (not widely available)

Management
- Metronidazole (Flagyl) 2g single dose orally
  - OK in all trimesters of pregnancy OR
- Tinidazole (Tindamax) 2g single dose orally (category C) OR
- Metronidazole 500 mg oral BID x 7 days for HIV positive
- Abstinence until treatment completed
- Treat sexual partner(s)
- Abstain from drinking alcohol (72 hr post Rx)
SYPHILIS

- Sexually transmitted disease characterized by sequential stages and involving multiple systems.
- Stages:
  - Primary
  - Secondary
  - Latent
  - Tertiary

Assessment Findings

- **Primary syphilis**
  - Chancre at site of inoculation begins as papule then ulcerates with a hard edge and clean, yellow base; indurated and painless; usually located on genitalia; may be solitary or multiple; persists for 1-5 weeks and heals spontaneously
  - Chancre may go unnoticed in females
  - Regional lymphadenopathy

- **Secondary syphilis**
  - Rash that is bilaterally symmetrical, polymorphic, non-pruritic, frequently on soles and palms, and usually persists for 2-6 weeks then spontaneously resolves
  - Condyloma lata: moist, pink, peripheral warty lesions present on glans, perianal, vulval areas, and intertriginous areas

Assessment Findings

- **Latent syphilis**
  - Asymptomatic

- **Tertiary Syphilis**
  - Cardiovascular manifestations: aortic valve disease, aneurysms
  - Neurological manifestations: meningitis, encephalitis, tabes dorsalis, dementia
  - Integumentary manifestations: gummas
  - Orthopedic manifestations: Charcot joints, osteomyelitis

Diagnostic Studies

Prophylaxis for all sexual contacts in last 90 days

- Non-treponemal tests
  - RPR, Venereal Disease Research Laboratory (VDRL)
- Treponemal tests (usually positive for life)
  - Direct fluorescent antibody testing (DFA-TP)

Additional Notes:
Management
- Benzathine penicillin G (Bicillin) 2.4 million units IM in adults and children 50,000 units/kg IM
- Neurosyphilis: aqueous crystalline penicillin G IV OR procaine penicillin with probenecid IM
- Congenital: aqueous crystalline penicillin G IV OR procaine penicillin IM
- If Penicillin allergy:
  - Doxycycline (Vibramycin®) 100 mg oral BID x 14 days OR tetracycline 500 mg oral TID x 14 days
- If Penicillin allergy AND compliance or follow-up is uncertain:
  - Desensitization is recommended

**EVALUATION AFTER SEXUAL ASSAULT (OR EXPOSURE)**

1. Prophylactic post-exposure treatment; if refused, then screen
2. NAATs for gonorrhea, chlamydia
3. Wet mount and culture for trich, BV, Candida
4. Serum: HIV, Hep B and C, syphilis, consider HSV type 2 (IGG)

Follow up Care
1. 1-2 weeks repeat the swab and wet mount
2. Repeat the serology at 6 weeks, 3 and 6 months

Sexual Assault: After-care
- Hep B immunization, HPV vaccination
- Empiric treatment for chlamydia, gonorrhea, trich, and BV
- Consider PEP for HIV with zidovudine
- Emergency contraception (pregnancy test)

Rx: Ceftriaxone 250 mg IM plus
    Metronidazole 2g oral plus
    Azithromycin 1g oral or
    Doxycycline 100 mg BID x 7 days

Additional Notes:
Thank you!

- Mimi@MimiSecor.com
- www.MimiSecor.com
- Facebook:
  - Mimi Secor
  - Mimi Secor NP Speaker, Consultant
  - “Coach Kat and Dr Mimi”
- Secor Initiative: A Year-long Online Program to help MPs become healthy, happy and fit

Resources for STDs

- CareOnPoint (COP): www.careonpoint.com
- Clinical Guidelines in Primary Care; Amelie Hollier, DNP, FNP-BC, FAANP (2016)

Additional Notes: