Managing STDs in the Correctional Setting:

A Guide for Clinicians

2nd Edition

Hsu • Jolin • Miller
Lincoln • Lubelczyk • Nijhawan

Sylvie Ratelle
STD/HIV Prevention Training Center of New England
A Project of the Division of STD Prevention
Massachusetts Department of Public Health
Funded by the CDC

NCSD
National Coalition of STD Directors
Managing STDs in the Correctional Setting:

A Guide for Clinicians

2nd Edition

Katherine K. Hsu, MD, MPH, FAAP
Director, Ratelle STD/HIV Prevention Training Center of New England
Medical Director, Division of STD Prevention
Massachusetts Department of Public Health, Jamaica Plain, MA
Assistant Professor of Pediatrics, Boston University Medical Center

Kathryn M. Jolin, RN, BSN, CCHP
Graduate Student, Psychiatric Mental Health Nursing
William F. Connell School of Nursing, Boston College, Chestnut Hill, MA

Jamie L. Miller, MPH
Chair, Corrections Task Force
National Coalition of STD Directors, Washington, D.C.

Thomas Lincoln, MD, CCHP
Medical Director, Hampden County Correctional Center, Ludlow, MA
Assistant Professor of Medicine, Tufts University/Baystate Medical Center

Rebecca A. Lubelczyk, MD, CCHP, FSCP
Associate Program Medical Director, University of Massachusetts Correctional Health
Assistant Professor, Family and Community Health, University of Massachusetts Medical School

Ank E. Nijhawan, MD, MPH
Instructor, Harvard Medical School
Department of General Internal Medicine and Primary Care
Beth Israel Deaconess Medical Center, Boston, MA
This guide was developed to assist clinicians in the prevention and management of STDs in correctional settings. It is meant to be a quick resource guide. We encourage users to consult additional references for more complete information.

We welcome your feedback on this guide. Please send your comments to PTCBoston@state.ma.us.
Chapter Three:

Algorithms of Diagnostic Assessment and Management of Syndromes

- Genital Ulcer Disease (Male/Female) – Darkfield Unavailable
- Urethritis – Gram Stain Unavailable
- Cervicitis
- Pelvic Inflammatory Disease
- Proctitis
- Vaginal Discharge
- Differential Diagnosis of Vaginitis
Genital Ulcer Disease (Male/Female) – Darkfield Unavailable

Ulcer(s) present on genitalia

1) Obtain sexual history
2) Perform HSV testing
3) Perform syphilis testing (both treponemal and nontreponemal serologic testing)
4) Perform pregnancy testing
5) Offer HIV testing

Vesicles present?

YES

Empiric treatment for HSV with
Acyclovir 400mg PO TID x 7-10 days OR
Famciclovir 250mg PO TID x 7-10 days OR
Valacyclovir 1g PO bid x 7-10 days

NO

Ulcers painful?

YES

NO

Empirical treatment for syphilis with
Benzathine penicillin G 2.4 million units IM x 1 dose

Vesicles present?

YES

NO

Empiric treatment for syphilis with
Benzathine penicillin G 2.4 million units IM x 1 dose

HSV-positive

HSV-negative

Consider
1) Atypical HSV
2) Atypical primary syphilis*
3) Chancroid
4) Granuloma inguinale

Syphilis testing positive

Syphilis testing negative

Consider alternative diagnoses**

Still consider HSV especially if ulcers recur

Clinical improvement after 3-7 days?

YES

NO

Consider alternative diagnoses**

Still consider syphilis*

Repeat syphilis testing 2-4 weeks after initial testing

Partner management**

Still consider HSV especially if ulcers recur

Consider alternative diagnoses**

Consider chancroid if one or more ulcers with large lymphadenopathy (buboes)

Consider granuloma inguinale (Donovanosis) if lesions multiple and slowly progressing

Clinical improvement after 3-7 days?

YES

NO

Consider alternative diagnoses**

Azithromycin 1g PO x 1 dose OR
Ceftriaxone 250mg IM x 1 dose (other regimens available**)

Doxycycline 100mg PO BID for at least 3 weeks***
AND until all ulcers have healed (other regimens available**)

*Especially if MSM or other high-risk sexual history. Up to 25% of primary syphilis cases initially have negative nontreponemal (e.g. RPR) testing.

**See 2010 CDC STD Treatment Guidelines for further details.

***Doxycycline not for use in pregnancy.

Although this algorithm implies patients have mutually exclusive diagnoses, some patients have more than one diagnosis.
Urethritis – Gram Stain Unavailable

Sexually active male with complaints of urethral discharge and/or dysuria

1) Perform NAAT for gonorrhea and chlamydia
2) Offer HIV and syphilis testing

Mucopurulent or purulent discharge?

YES

Empirically treat for gonorrhea and chlamydia with Ceftriaxone 250mg IM x 1 dose PLUS EITHER
Azithromycin 1g PO x 1 dose OR
Doxycycline 100mg PO BID x 7 days
No sexual activity for 7 days

+Leukocyte esterase test on a first void urine?

YES

Can follow closely and defer treatment until results available, OR empirically treat if suspicion high for gonorrhea or chlamydia or release likely before test results available

NO

Symptoms resolved?

YES

NO

Objective signs of urethritis still present?***

YES

CAN FOLLOW CLOSELY AND DEFER TREATMENT UNTIL RESULTS AVAILABLE, OR EMPIRICALLY TREAT IF SUSPICION HIGH FOR GONORRHEA OR CHLAMYDIA OR RELEASE LIKELY BEFORE TEST RESULTS AVAILABLE

NO

Partner management**

Consider re-infection, poor compliance, doxycycline-resistant M. genitalium and U. urealyticum, or T. vaginalis infection

If compliant with initial regimen and re-exposure excluded, test (if testing available) and empirically treat for trichomoniasis with Metronidazole 2g PO x 1 dose OR Tinidazole 2g PO x 1 dose

***Objective signs of urethritis include mucopurulent or purulent discharge on exam, positive leukocyte esterase test on first void urine, or gram stain of urethral secretions with >5 WBCs per oil immersion field.

*See 2010 CDC STD Treatment Guidelines for further details.
Cervicitis

Sexually active woman without symptoms, OR presenting with abnormal vaginal discharge and/or intermenstrual vaginal bleeding

Exam with EITHER
1) purulent or mucopurulent endocervical exudate visible in the endocervical canal or on an endocervical swab specimen, OR 2) sustained endocervical bleeding easily induced by gentle passage of a cotton swab through the cervical os.

1) Perform NAAT for gonorrhea and chlamydia 2) Perform pregnancy testing 3) Offer HIV testing

Uterine tenderness, OR Adnexal tenderness, OR Cervical motion tenderness on pelvic exam?

YES

See Pelvic Inflammatory Disease algorithm

NO

Microscopy (saline and KOH preps of vaginal discharge) if available

Leukorrhea (>10 WBC per high-power field on microscopic examination of vaginal fluid) identified?

YES

Defer treatment until results available and follow closely, OR empirically treat if suspicion high for gonorrhea (local prevalence >5%) or chlamydia (e.g. age ≤25 years, new or multiple sex partners, and engaged in unprotected sex), OR release likely before test results available

Empiric treatment for gonorrhea and chlamydia while awaiting NAAT results:
Ceftriaxone 250mg IM x 1 dose PLUS EITHER Azithromycin 1g PO x 1 dose OR Doxycycline 100mg PO BID x 7 days*
No sexual activity for 7 days

NO

Vaginal etiology identified?

NO

If trichomoniasis identified, see Vaginal Discharge algorithm

YES

NAAT for gonorrhea or chlamydia positive?

YES**

Partner management***

NO

Still could be trichomoniasis
Consider additional testing for T. vaginalis if available
Also consider HSV and other etiologies of non-gonococcal cervicitis

Cervicitis recurrent or persistent?***

*Doxycycline not for use in pregnancy.
**If gc or chl NAAT is positive, patient should have repeat screening (test of reinfection) in 3-6 months.
***See 2010 CDC STD Treatment Guidelines for further details.
Pelvic Inflammatory Disease

Sexually active woman presenting with vaginal discharge, lower abdominal pain, OR dyspareunia

Uterine tenderness, OR Adnexal tenderness, OR Cervical motion tenderness on pelvic exam?

**YES**

1) Perform NAAT for gonorrhea and chlamydia
2) Perform pregnancy testing
3) Perform vaginal microscopy if available
4) Offer HIV testing

Empiric treatment for PID* if no other organic cause found (e.g. ectopic pregnancy, appendicitis)

Signs of severe illness (i.e. high fever, nausea/vomiting), OR Surgical emergency (e.g. appendicitis) not excluded, OR Suspected to have a tubo-ovarian abscess, OR Unable to tolerate or already failed oral antibiotics, OR Pregnant?

**YES**

Inpatient PID treatment:
Cefotetan 2g IV Q12 hours OR Cefoxitin 2g IV Q6 hours, PLUS Doxycycline 100mg PO/IV Q12 hours** (other regimens available****)

1) Hospitalize 24-48 hours to ensure response to treatment
2) Discharge on oral antibiotics to complete 14 day course

Outpatient PID treatment:
Ceftriaxone 250mg IM x 1 dose PLUS Doxycycline 100mg PO BID x 14 days,** WITH OR WITHOUT Metronidazole 500mg PO BID x 14 days*** OR Cefoxitin 2g IM x 1 dose and Probenecid 1g PO x 1dose together PLUS Doxycycline 100mg PO PID X 14 days,** WITH OR WITHOUT Metronidazole 500mg PO PID x 14 days*** (other regimens available****)

Response to treatment 72 hours later?

**NO**

See Inpatient treatment

**YES**

Continue treatment for 14 days

*Sex partners in past 60 days should be examined and treated empirically for gonorrhea and chlamydia, regardless of results of gonorrhea or chlamydia testing in index patient. If gonorrhea or chlamydia NAAT is positive, patient should have repeat screening (test of reinfection) in 3-6 months.

**Doxycycline not for use in pregnancy.

***Add metronidazole if bacterial vaginosis documented or unable to do vaginal microscopy.

****See 2010 CDC STD Treatment Guidelines for further details.
Proctitis

Sexually active male or female with anorectal pain (especially with defecation), tenesmus, rectal discharge, or bleeding

1) Obtain sexual history
2) Perform rectal exam (anoscopy preferred*)
3) Perform NAAT for gonorrhea and chlamydia
4) Perform pregnancy testing
3) Offer HIV testing

Perianal or mucosal ulcer(s) present on anoscopy

See Genital Ulcer Disease algorithm

Also consider LGV in men who have sex with men
Contact health department if considering this diagnosis

Consider empiric treatment for LGV with Doxycycline 100mg PO bid x 3 weeks**

No lesions, but exudates present, or leukocytes on Gram stain (if available) of secretions

Empiric treatment with Ceftriaxone 250mg IM x 1 dose PLUS Doxycycline 100mg PO BID x 7 days**

Partner should be evaluated if sexually transmitted cause of proctitis identified

*N. gonorrhoeae, C. trachomatis (including LGV serovars), T. pallidum, and HSV are the most common sexually transmitted pathogens involved in proctitis.

*Anoscopes are cheap, disposable, and easy to use.

**Doxycycline not for use in pregnancy.
Vaginal Discharge

1) Ask about douching (predisposes to BV, some STDs, and HIV)
2) Assess amount, color, consistency of vaginal discharge
3) Look for mucopurulent endocervical discharge

**Oral therapy preferred for pregnant women with BV, because of possibility of subclinical upper genital tract disease.

See 2010 CDC STD Treatment Guidelines for further details.

Although this algorithm implies patients have mutually exclusive diagnoses, some patients have more than one diagnosis.
## Differential Diagnosis of Vaginitis

<table>
<thead>
<tr>
<th>Patient Complaints</th>
<th>Normal</th>
<th>Bacterial Vaginosis</th>
<th>Candida Vulvovaginitis</th>
<th>Trichomonas Vaginitis</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Thin discharge, odor, itch, 50% asymptomatic</td>
<td>Itch, burning, dysuria, thick discharge</td>
<td>Odor, itch, discharge, dysuria</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exam Findings</th>
<th>Normal</th>
<th>Thin discharge, fishy smell</th>
<th>Vulvar/vaginal edema/erythema, fissures, excoriations, satellite papules</th>
<th>Cervical petechiae (“strawberry cervix”)</th>
</tr>
</thead>
</table>

| Vaginal Discharge | Clear to white, colorless, odorless | Increased, homogenous, thin, white to gray, adherent, fishy smell | Thick, clumpy, white, “cottage cheese,” increased | Gray or yellow-green, frothy, adherent, increased |

<table>
<thead>
<tr>
<th>Vaginal pH</th>
<th>≤4.5</th>
<th>&gt;4.5</th>
<th>Usually ≤4.5</th>
<th>Usually &gt;4.5</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>KOH “whiff test”</th>
<th>Negative</th>
<th>Positive</th>
<th>Negative</th>
<th>Often positive</th>
</tr>
</thead>
</table>

| Saline Wet Mount | Normal epithelial cells, numerous lactobacilli | Clue cells (≥ 20%), no/few WBCs | Normal epithelial cells, >1:1 ratio of WBCs:epithelial cells, pseudohyphae or budding yeast | Motile flagellated protozoa, >1:1 ratio of WBC:epithelial cell |

| KOH Preparation | Epithelial cell “ghosts” | Epithelial cell “ghosts” | Pseudohyphae or budding yeast | Epithelial cell “ghosts” |