

SEXUALLY TRANSMITTED DISEASES

CLINICAL PRACTICE GUIDELINES

Public Health – Seattle & King County

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PREFACE

The 2003 edition of the Public Health – Seattle & King County Sexually Transmitted Diseases Clinical Practice Guidelines is the product of several months of careful deliberation, literature review, and consultation. Patients evaluated or treated for STD by Public Health clinics or personnel should be managed in accordance with these guidelines. However, no guideline can encompass all clinical circumstances, and alternative approaches sometimes are appropriate. When a Public Health patient is evaluated or treated for STD in a manner not explicitly defined in these guidelines or in directives that explicitly modify the guidelines, the reason should be clearly documented in the patient's medical record. Not all recommended tests or treatments are available at all Public Health clinics. Other health care providers and agencies are welcome to utilize these guidelines, with or without modification.

The science of medicine in general, and of STD diagnosis and management in particular, changes rapidly. For example, only culture or nucleic acid amplification tests (NAAT) are recommended for laboratory diagnosis of chlamydial infection or gonorrhea, but new test methods may be developed, the available NAATs are evolving rapidly, and still other tests may be the only ones available to some users of these guidelines. Some tests not currently approved for testing of some specimens or anatomic sites may soon be validated for those sites and specimens. Similarly, new tests for herpes simplex virus infection, not explicitly mentioned, may become available. Hence, in some settings tests other than those stipulated may be appropriate. Providers should keep abreast of developments that may warrant use of procedures or treatments not directly addressed in these guidelines.

For additional guidance on management options for STD, prevention of STDs including HIV/AIDS, contraception, or other reproductive health issues, the reader is referred to the 2002 STD Treatment Guidelines published by the Centers for Disease Control and Prevention, Public Health's Family Planning Clinical Practice Guidelines, and other resources. An appendix lists these and other useful resources. Other appendices summarize the abbreviations used, the safety of STD-related drugs in pregnant and nursing women, the protocols for hepatitis A and B immunization, procedures for reporting STDs and viral hepatitis, and the differential diagnosis of several dermatologic conditions commonly seen in persons at risk for STD.

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ROUTINE EVALUATION

The following minimal physical and laboratory examinations should be performed on all sexually active patients seeking STD clinical services or otherwise at risk for STD at each clinical visit for evaluation of a new problem. All such patients should be counseled regarding means to reduce their risk of acquiring STD.

A. Men

1. Physical examination

- a. Inspect the skin of abdomen, inguinal areas, thighs, hands, palms, and forearms; or other areas that may be indicated by medical or epidemiologic history
- b. Oropharyngeal examination
- c. Inspect penis; retract foreskin if present and milk the urethra for discharge
- d. Palpate scrotal contents
- e. Examine for inguinal, femoral, axillary, and cervical lymphadenopathy
- f. Inspect the anus if sexually exposed or anorectal symptoms present; include anoscopy if signs or symptoms of proctitis or proctocolitis are present

2. Laboratory

- a. Urethral Gram-stained smear if patient has signs or symptoms of urethritis or has a sex partner with gonorrhea
- b. Tests for urethral infection
 - 1) Chlamydial infection: Urethral culture or urethral/urine NAAT for *C. trachomatis* if <30 years old; signs or symptoms of urethritis present; prior gonorrhea or chlamydial infection within 2 years; or patient has a sex partner with gonorrhea or chlamydial infection
 - 2) Gonorrhea: Urethral culture or urethral/urine NAAT for *N. gonorrhoeae* if signs or symptoms of urethritis present; prior gonorrhea within 2 years; or patient has a sex partner with gonorrhea
- c. Rectal culture for *N. gonorrhoeae* in men who report receptive anal sex with men

- d. Rectal culture for *C. trachomatis* in men who report receptive anal sex with men
- e. Pharyngeal culture for *N. gonorrhoeae* in MSM and in men who report receptive oral sex with a person with anogenital gonorrhea
- f. HIV counseling and testing
- g. Syphilis serology if not done within the preceding year, or if patient has a sex partner with syphilis
- h. Offer type-specific serological test for HSV-2, unless there is prior documentation of HSV-2 infection; testing is an especially high priority for persons at high risk for HIV infection
- i. Offer serological tests for viral hepatitis to persons age 18 years and younger and MSM, and sex partners of persons with HBV or HAV infection: HBs, HBs antibody, HBc antibody, and HAV antibody; for IDU, offer the same tests plus HCV antibody

B. Women

- 1. Physical examination
 - a. Inspect the skin of abdomen, inguinal areas, thighs, hands, palms, and forearms; or other areas that may be indicated by medical or epidemiologic history
 - b. Oropharyngeal examination
 - c. Inspect external genitalia, perineum, and anus
 - d. Speculum examination of vagina and cervix
 - e. Bimanual pelvic examination
 - f. Palpate lower abdomen
 - g. Examine for inguinal, femoral, axillary, and cervical lymphadenopathy

2. Laboratory

- a. Vaginal secretions collected from vaginal wall, or pooled secretions: pH and amine odor (KOH sniff) test
- b. Saline and KOH preparation microscopy of vaginal secretions for clue cells and fungal elements; for appropriately trained observers, Gram stained smear of vaginal secretions is an alternative to microscopy of saline and KOH preparations
- c. Endocervical secretions for Gram-stained smear in women age 25 years or less, if abnormal cervical secretions or other signs of cervicitis are observed, or if the patient has a sex partner with gonorrhea or chlamydial infection
- d. Culture or NAAT for *C. trachomatis*
 - 1) Endocervix (preferred); or urine or self-obtained vaginal swab for NAAT if speculum examination is not performed; or test urethra if cervix is absent
 - 2) Rectal culture if symptoms or signs of proctitis
- e. Culture or NAAT for *N. gonorrhoeae*
 - 1) Endocervix (preferred); or urine or self-obtained vaginal swab for NAAT if speculum examination is not performed; or test urethra if cervix is absent
 - 2) Rectal culture in patients who report receptive anal sex or have symptoms or signs of proctitis
 - 3) Pharyngeal culture in patients who report receptive oral sex with a partner with genital gonorrhea
- f. Cervical cytology if not done within past year
- g. HIV counseling and testing
- h. Syphilis serology if not done within the preceding year, or if patient has a sex partner with syphilis
- i. Offer type-specific serological test for HSV-2, unless there is prior documentation of HSV-2 infection; testing is an especially high priority for persons at high risk for HIV infection
- j. Offer serological tests for viral hepatitis to persons age 18 years and younger, sex partners of MSM, and sex partners of persons

with HBV or HAV infection: HBs, HBs antibody, HBc antibody and HAV antibody; for IDU, offer the same tests plus HCV antibody

- k. Urine human chorionic gonadotropin assay if undiagnosed pregnancy is suspected

C. Principles of STD Treatment

1. Review history of allergy/intolerance to the intended and related drugs
2. Counsel patient re dosing schedule, need to complete treatment course, and to avoid sharing treatment not intended for other persons, potential side effects and their prevention, and potential drug interactions
3. Single-dose treatments, and preferably the first dose of multiple-dose regimens given for bacterial STDs or trichomoniasis, should be directly observed
4. Emphasize need for sexual abstinence until treatment is complete and efficacy is assured
5. It is the health care provider's obligation to take specific steps to assure evaluation and/or treatment of patient's sex partners, according to disease-specific guidelines

D. Health Education and Counseling

1. HIV counseling and testing: HIV counseling and testing are routine components of STD clinical and screening services, and all patients presenting for STD evaluation should have counseling to assess their risk for HIV infection and to help them reduce the risk. HIV testing should be recommended to all patients with STD or at risk. Pretest and posttest counseling should be routinely provided, as outlined below, and in Public Health settings, the Department's standard written consent should be executed. However, counseling should not be a barrier to testing; persons at high risk should not be denied testing if they decline the counseling component.
 - a. Persons at **high priority** for HIV testing are:
 - 1) Men who have sex with men (MSM)
 - 2) Injection drug users (IDU)
 - 3) Sex partners of persons with HIV or at risk
 - 4) Persons who report trading sex for drugs or money, or trading money or drugs for sex

- 5) Persons reporting recent substantial parenteral exposure (e.g., needle stick injury)
- b. Persons at **moderate priority** for HIV testing are:
- 1) Persons with 4 or more sex partners in the past year
 - 2) Persons with a newly diagnosed bacterial STD or trichomoniasis
 - 3) Persons with active tuberculosis or known to have converted their tuberculin skin test to positive in the past year
 - 4) Women who are pregnant or planning pregnancy
 - 5) Other persons who request HIV testing due to other perceived risk
- c. Pre-test counseling: The focus of pretest counseling is on helping the patient identify factors that may place him or her at risk for STD/HIV and then developing a specific plan to reduce that risk based in part on the patient's self-assessment of realistic, achievable changes in behavior (client-centered counseling). At a minimum at least one such modifiable behavior change should be identified. The following elements should be included:
- 1) Risks for HIV and how HIV can be prevented
 - 2) Testing procedures and interpretation of results
 - 3) Patient resources and plans if HIV infection is diagnosed
 - 4) Risk assessment: identify all factors that place the patient at risk for HIV, with emphasis on one or more factors *the patient believes* place him or her at risk
 - 5) Help patient define a specific step he or she will take to reduce his or her risk of HIV and other STDs
 - 6) Obtain signed consent for HIV testing

d. Post-test counseling

- 1) For persons at low risk for HIV infection, and in whom a negative result is anticipated, communication of HIV test results and post-test counseling for a negative result may be conducted by telephone; inform all patients that they must return in person if the result is positive
- 2) Most persons at high risk for HIV should return for face-to-face counseling. Results and preliminary post-test counseling may be conducted by telephone if a) the patient is psychologically stable and capable of receiving and interpreting the results without in-person contact; b) pre-test counseling documents clear understanding by the patient of the implications of a positive result; and c) the patient agrees to return for subsequent face-to-face counseling, preferably within 3 working days, if the test result is positive. With approval of the clinic physician or other expert consultant, telephone-only counseling—without return in person—may be provided to known HIV infected persons who have received post-test counseling; or if other specific arrangements are made for personal counseling elsewhere (e.g., for a person who will be in a distant geographic area when results become available).
- 3) The content elements of post-test counseling are complex, and depend on the test result and, among those with negative results, the nature of ongoing risk for HIV acquisition. In general, all pre-test counseling elements should be reinforced, with particular emphasis on the achievable client-centered risk-reduction strategy or strategies identified in pre-test counseling. Every HIV infected patient should be referred to a qualified provider for clinical evaluation and treatment of HIV disease, and counseled about his or her responsibility to take precautions to avoid transmitting HIV to other persons and ways to reduce that risk.

2. STD Prevention Counseling

- a. Barrier methods: All clients should be counseled regarding sexual safety and the use of male condoms, and latex condoms should be offered to all clients. Counseling should also include the availability of the female condom, as well as alternatives to latex condoms (e.g., polyethylene, natural membrane condoms) when latex condoms are unacceptable due to hypersensitivity or personal preference. Lubricated condoms are preferred; discourage use of condoms with lubricant that contains nonoxynol 9.

- b. Lubricants and spermicides: Clients should be instructed to use only water-based lubricants that do not contain the spermicide nonoxynol 9, which may increase the risk of HIV infection and other STDs
 - c. Douching: Vaginal douching increases the risk of bacterial vaginosis, PID, and ectopic pregnancy, and is not effective for the treatment or prevention of vaginal infection or STD or for promotion of vaginal hygiene. Women should be advised not to douche.
 - d. Partner selection and sexual behavior: The elements of counseling are complex and the determinants of partner selection and sexual network dynamics that predict STD risk vary widely between patients. Counseling should be tailored to the patient's needs and expectations, with emphasis on achievable strategies. Sexual abstinence and permanent mutual monogamy with an uninfected partner are the most certain protective strategies but will be impractical or unacceptable for most patients with STD or at risk.
3. Prevention of unintended pregnancy: Many women with STDs or at risk are at high risk for unintended pregnancy. All persons undergoing STD assessment should be asked whether they intend to become pregnant or to father a child, and about their use of contraception. Contraceptive options should be explored with all female and male patients who do not desire pregnancy and are not currently using contraception and, whenever possible, a plan should be developed with the patient selecting a type of contraception and a plan for implementation. Initial contraception prescriptions may be given to women according to Public Health's Family Planning Clinical Practice Guidelines, accompanied by referral to a Public Health clinic or other source of reproductive health care for ongoing management. In addition, emergency hormonal contraception services and prescriptions should be routinely available and used when indicated in settings that provide STD clinical services to women.

GONORRHEA

A. Diagnosis

1. Genital gonorrhea

- a. Gram-stained urethral or endocervical smear showing polymorphonuclear leukocytes (PMNs) with intracellular Gram-negative diplococci (ICGND) of typical morphology

OR

- b. Identification of *N. gonorrhoeae* in a urethral, endocervical, or urine specimen by an approved laboratory test

2. Anorectal gonococcal infection

- a. Anoscopically obtained Gram-stained smear showing PMNs with ICGND

OR

- b. Positive culture for *N. gonorrhoeae*

3. Pharyngeal gonococcal infection: Positive culture for *N. gonorrhoeae*

B. Treatment

Therapy should be effective against both gonococcal and chlamydial infection. In addition to treating both infections when present, dual therapy may help prevent treatment failure and may reduce selection pressure for antibiotic-resistant strains of *N. gonorrhoeae*. Single-dose treatment should be directly observed.

Note: Cefixime tablets recently became unavailable in the United States. However, cefixime is retained as an option for initial treatment in the event production of the drug resumes. Although single doses of other oral cephalosporins (e.g., cefuroxime axetil) may be effective, none is currently recommended for routine therapy. Ciprofloxacin, ofloxacin, levofloxacin, or other fluoroquinolones should not be used in persons who may have acquired gonorrhea in geographic areas where resistance to these antibiotics is common, including California, Hawaii or other Pacific islands, Asia, and most developing countries. Fluoroquinolone-resistant *N. gonorrhoeae* strains are likely to eventually become endemic in the Puget Sound area and elsewhere in the United States.

1. Routine treatment

Ciprofloxacin 500 mg PO

OR

Levofloxacin 250 mg PO

OR

Ofloxacin 400 mg PO

OR

Ceftriaxone 125-250 mg IM

OR

Cefixime 400 mg PO, if available

PLUS

Azithromycin 1.0 g PO, single dose

OR

Doxycycline 100 mg PO *bid* for 7 days

Note: Ceftriaxone may be reconstituted in normal saline solution or in 1% lidocaine; the latter reduces injection pain. Doses of 125 mg or 250 mg are equally effective, but the smallest commercially available unit dose is 250 mg and may be administered if treatment of a second patient is not anticipated within the shelf life of reconstituted drug (72 hr).

2. Pregnant women

Ceftriaxone 125-250 mg IM (some experts recommend routine use of 250 mg in pregnancy)

OR

Cefixime 400 mg PO, if available

OR

Spectinomycin 2.0 g IM (not effective for pharyngeal infection)

PLUS

Azithromycin 1.0 g PO, single dose

OR

Amoxicillin 500 mg PO *tid* for 7 days

OR

Erythromycin 500 mg PO *qid* (or 666 mg PO *tid*) for 7 days

3. Penicillin allergy

a. Ciprofloxacin 500 mg PO, levofloxacin 250 mg PO, or ofloxacin 400 mg PO; plus azithromycin or doxycycline as described above

b. Late onset, atypical, or undocumented allergy in patients in whom fluoroquinolones are contraindicated: Ceftriaxone 125-250 mg IM,

or cefixime 400 mg PO, if available; plus azithromycin or doxycycline as described above

c. Immediate-onset or apparent type I allergic reaction (anaphylaxis, angioedema, urticaria) in patients in whom fluoroquinolones are contraindicated: Spectinomycin 2.0 g IM, plus azithromycin or doxycycline as described above

4. Disseminated gonococcal infection: Ceftriaxone 1.0 g IV or IM once daily until clinical improvement, then ciprofloxacin 500 mg PO *bid* or cefixime 400 mg PO *bid*, if available, to complete at least 7 days total therapy

C. Follow-up:

1. Test-of-cure 2-3 weeks after completion of treatment is indicated if therapeutic compliance is uncertain and for all pregnant women
2. Rescreening: Advise all patients to return for rescreening for *N. gonorrhoeae* 3-4 months after treatment. If symptoms are absent when the patient returns, rescreening may be accomplished with NAAT on voided urine or self-obtained vaginal swab. All persons rescreened for *N. gonorrhoeae* should also be tested for *C. trachomatis*.

D. Sexual activity and management of sex partners

1. Advise sexual abstinence for at least 1 week and until treatment (including anti-chlamydial therapy) has been completed, symptoms have resolved, and the patient's sex partner or partners have been treated
2. The clinic or provider who diagnoses gonorrhea is responsible for ensuring the treatment of patient's sex partners. All patients should be interviewed and counseled to identify and arrange for treatment of their sex partners. Public Health assistance is available to help ensure that sex partners are treated, and should be requested routinely when the provider is not confident that all partners at risk will be treated. Giving the patient medication to give to his or her partner or a prescription in the partner's name (patient delivered partner therapy) may reduce the risk of reinfection. Patient-delivered partner therapy is legal in Washington provided that clinicians dispense medication with instruction and counseling (which may be in writing) about dosing and potential side effects. Providers should consider providing patient-delivered partner therapy if treatment of the partner cannot otherwise be ensured.
3. Examine, test, and treat all partners exposed within 60 days prior to diagnosis in the index case; or the most recent partner, if more than 60 days prior to onset

CHLAMYDIAL INFECTION

- A. Diagnosis: Documentation of *C. trachomatis* by culture, NAAT, or other approved laboratory test
- B. Treatment

Note: Single-dose therapy should be directly observed, as should the first dose of multiple-dose therapy

- 1. Routine therapy

Azithromycin 1.0 g PO, single dose

OR

Doxycycline 100 mg PO *bid* for 7 days

- 2. Alternative therapy

Levofloxacin 500 mg PO once daily for 7 days

OR

Ofloxacin 300 mg PO *bid* for 7 days

OR

Erythromycin stearate or base 500 mg PO *qid* (or enteric coated erythromycin base 666 mg *tid*) for 7 days; erythromycin is less effective than other regimens and should be used only in patients for whom all preceding options are contraindicated or not tolerated

- 3. Pregnant women

Azithromycin 1.0 g PO, single dose

OR

Amoxicillin 500 mg *tid* for 10 days

OR

Erythromycin, as above

- C. Follow-up

- 1. Test-of-cure should be performed 3-4 weeks after completion of treatment if the patient is unlikely to comply with therapy, pregnant, treated with erythromycin or treated with a nonstandard antimicrobial regimen of uncertain efficacy; only culture or NAAT should be used
- 2. Rescreening: Advise all patients to return for rescreening for *C. trachomatis* 3-4 months after treatment; if symptoms are absent when patient returns, rescreening may be accomplished with NAAT on voided urine or self-obtained vaginal swab

- D. Sexual activity and management of sex partners

1. Advise sexual abstinence for at least 1 week and until treatment has been completed, symptoms have resolved, and the patient's sex partner or partners have been treated
2. The clinic or provider who diagnoses chlamydial infection is responsible for ensuring the treatment of patient's sex partners. All patients should be interviewed and counseled to identify and arrange for treatment of their sex partners. Public Health assistance is available to help ensure that sex partners are treated, and should be requested routinely when the provider is not confident that all partners at risk will be treated. Giving the patient medication to give to his or her partner or a prescription in the partner's name (patient delivered partner therapy) may reduce the risk of reinfection. Patient-delivered partner therapy is legal in Washington provided that clinicians dispense medication with instruction and counseling (which may be in writing) about dosing and potential side effects. Providers should consider providing patient-delivered partner therapy if treatment of the partner cannot otherwise be ensured.
3. Examine, test, and treat all partners exposed within 2 months prior to diagnosis in the index case; or the most recent partner, if more than 2 months prior to diagnosis

NONGONOCOCCAL URETHRITIS

A. Diagnosis

1. Document urethritis
 - a. Urethral Gram-stained smear showing ≥ 5 PMNs/1000x (oil immersion) field in at least 3 fields in areas of maximal cellular concentration. If the Gram stain is non-diagnostic in the presence of symptoms or signs of urethritis, perform leukocyte esterase (LE) test on the first 15 ml of voided urine; positive LE (1+ or greater) suggests urethritis. If microscopy is available, microscopic examination of spun urine sediment may be substituted for LE, in which case ≥ 15 PMNs/400x (high dry) field indicates urethritis.

AND EITHER

- b. Symptoms of urethral discharge or dysuria

OR

- c. Purulent or mucopurulent urethral discharge on examination
2. Gram-stained smear of urethral exudate negative for ICGND, confirmed by negative urethral culture or NAAT for *N. gonorrhoeae*
3. Test for *C. trachomatis* and *N. gonorrhoeae* urethral infection by culture or NAAT
4. Persistent or recurrent urethritis: Urine culture or other test for *Trichomonas vaginalis*

Patients who have symptoms of urethritis but who have neither signs nor laboratory evidence (microscopy or LE test) of urethral inflammation should be reexamined 5-7 days later, when they have not urinated for at least 4 hours (preferably overnight). A urethral Gram-stained smear showing ≥ 5 PMNs/1000x field on two occasions at least 5 days apart is diagnostic of urethritis, regardless of other criteria.

Patients who have persistent or recurrent symptoms of urethritis should not receive antimicrobial therapy unless urethritis is documented by visible urethral discharge or laboratory evidence of urethritis (microscopy, LE test).

B. Treatment

1. Initial or isolated episode of NGU, i.e. no prior episode within 6 weeks: Treat for presumptive *C. trachomatis* infection with azithromycin 1.0 g PO,

single dose; or doxycycline 100 mg PO *bid* for 7 days; or levofloxacin or ofloxacin for 7 days

2. Persistent NGU; i.e., failure of symptoms to resolve or to substantially improve within 7 days of starting therapy

Metronidazole 2.0 g, single dose

PLUS

Azithromycin 1.0 g PO, single dose

OR

Doxycycline 100 mg PO *bid* for 7 days

3. Recurrent NGU; i.e., new symptoms within 6 weeks after symptomatic improvement in response to prior therapy

- a. First recurrence

Repeat azithromycin or doxycycline as recommended for *C. trachomatis* infection (usually with whichever regimen was not administered with initial therapy)

- b. Second or subsequent recurrent episode within 6 weeks of prior treatment

Metronidazole 2.0 g, single dose

PLUS

Ofloxacin 300 mg PO *bid* for 7 days

OR

Levofloxacin 500 mg PO once daily for 7 days

OR

Erythromycin 500 mg PO *qid* (or 666 mg *tid*) for 3 weeks

OR

Doxycycline 100 mg PO *bid* for 3 weeks

- C. Follow-up: Return PRN for persistent or recurrent symptoms

Some men with persistent urethral symptoms (with or without documented urethritis) may have prostate gland disease, especially if accompanied by perineal or testicular discomfort. However, the diagnosis of chronic prostatitis is complex and time-consuming. Such patients should generally be referred to a urologist or other specialist for diagnostic evaluation.

D. Sexual activity and management of sex partners

All female sex partners of persons with non-recurrent NGU should be tested for *C. trachomatis* and treated with a regimen effective against uncomplicated chlamydial infection. In the absence of chlamydial infection, there is no clear evidence that such treatment prevents either morbidity in the partner or reinfection of the index case. There is even less certainty about the clinical value in treating the male partners of MSM with nonchlamydial NGU; some such cases may be attributed to urethral infection with the partner's otherwise nonpathogenic oral or rectal flora.

1. Initial and non-recurrent NGU: Advise sexual abstinence until treatment is complete and symptoms have resolved. Examine all partners within the preceding 2 months, and any other partners suggested by exposure history. Partners of men at high risk of chlamydial NGU (i.e., heterosexual men younger than 30 years old) should be given highest priority. Treat partners for presumptive chlamydial infection (usually azithromycin or doxycycline). Patient-delivered partner therapy is not indicated for NGU in the absence of laboratory-documented chlamydial infection.
2. Recurrent NGU: Advise sexual abstinence until treatment is complete and symptoms have resolved. The need for treatment of patients' sex partners is unknown. The approach should be individualized on the basis of available clinical, epidemiologic, and microbiologic data; if uncertain, discuss with clinic physician or other consultant. Stress the need for abstinence or condom use during treatment. After the patient's regular sex partner has been tested and treated, repeated evaluation and treatment of the partner usually are not indicated.

ACUTE EPIDIDYMITIS

Note: All patients with suspected epididymitis should be immediately referred to the clinic physician or other consultant.

A. Diagnosis

1. Differential Diagnosis

In young, sexually active men, most acute epididymitis is due to sexually acquired chlamydial infection or gonorrhea. Most other cases are caused by coliforms, enterococci, or other typical uropathogens; risk factors are age ≥ 35 years, insertive anal intercourse, anatomic anomalies of the lower urinary tract, and recent urinary tract instrumentation. Fungi and non-tuberculous mycobacteria occasionally cause epididymitis in HIV infected persons and others with impaired cell-mediated immunity.

Note: In teens and young adults, testicular torsion is the most common alternate diagnosis. Torsion is an emergency that requires immediate referral for surgery in order to preserve testicular viability. In addition to young age, torsion is suggested by sudden onset (often during sleep), absence of urethritis and pyuria, and absence of risk factors for both STD and for non-sexually transmitted epididymitis.

2. Symptoms: Scrotal pain and swelling are nearly universal, usually are unilateral, and typically develop over 1-2 days, although either more sudden or more gradual onset may occur. Symptoms of urethritis may or may not be present. Inquire about recent urethral catheterization or other urologic procedures, insertive anal intercourse, and insertion of devices during sexual activity or masturbation. In men ≥ 35 years old, consider a prostatic source of infection.
3. Examination: Epididymal and/or testicular tenderness, swelling, and induration; urethral discharge may be present or absent. Examine for specific signs of testicular torsion, including elevation of the affected testicle and absent cremasteric reflex (elevation of the ipsilateral testicle in response to stroking the medial thigh).
4. Laboratory
 - a. Midstream urinalysis and urine Gram stain (see Urinary Tract Infections)
 - b. Assess for urethritis as described above (Nongonococcal Urethritis); urethritis suggests chlamydial or gonococcal epididymitis
 - c. Urethral or urine culture or NAAT for *C. trachomatis*
 - d. Urethral or urine culture or NAAT for *N. gonorrhoeae*
 - e. Bacterial urine culture with antimicrobial susceptibility testing

B. Treatment

1. Empirical therapy, effective for all etiologies and indicated for most patients unless gonococcal or chlamydial infection has been definitively diagnosed before treatment:

Levofloxacin 500 mg once daily for 10 days
OR
Ofloxacin 300 mg PO *bid* for 10 days
2. Chlamydial epididymitis

Doxycycline 100 mg PO *bid* for 10 days

OR
Levofloxacin 500 mg PO once daily for 10 days
OR
Ofloxacin 300 mg PO *bid* for 10 days

3. Gonococcal epididymitis

Ceftriaxone 250 mg IM plus ofloxacin or levofloxacin (as above) for 10 days (avoid in patients at risk for fluoroquinolone-resistant *N. gonorrhoeae* infection)

OR
Ceftriaxone 250 mg IM plus doxycycline 100 mg PO *bid* for 10 days

4. Nongonococcal, nonchlamydial epididymitis: Discuss with clinic physician or refer for urology consultation. Pending urine culture and antimicrobial susceptibility testing, therapy usually should be initiated with:

Levofloxacin 500 mg PO once daily for 10 days

OR
Ofloxacin 400 mg *bid* for 10 days

5. Severe cases (e.g., fever, nausea, vomiting) or cases in immunodeficient patients may require hospitalization and parenteral antibiotic therapy

6. Supportive care: Scrotal support, ice packs, or analgesics may provide symptomatic relief

C. Follow-up: Follow-up should be individualized; most patients should be re-examined 2-4 days after starting therapy and again after completing treatment

D. Sexual activity and management of sex partners

1. Advise sexual abstinence until testicular pain resolved (usually 1-2 weeks) and, for chlamydial or gonococcal infection, according to guidelines for those infections

2. Chlamydial or gonococcal epididymitis: Manage partners as for uncomplicated chlamydial infection or gonorrhea

3. Coliform and other etiologies: None

VAGINAL INFECTIONS

Vaginal infections usually are evidenced by symptoms of increased or malodorous vaginal discharge or vulvar discomfort. The three major causes are bacterial vaginosis, which is associated with STD risks but has not been demonstrated to be sexually transmitted except in selected circumstances; trichomoniasis, which is sexually acquired and transmitted; and vulvovaginal candidiasis, which generally is not sexually transmitted. Differentiating these conditions requires microscopic examination and pH measurement of vaginal fluid; while speculum examination may rule out an endocervical discharge as the source, definitive diagnosis requires microscopy. The differential diagnosis includes physiologic discharge (often increased during ovulation and in pregnancy); allergic reactions to spermicides, lubricants, or douche preparations; estrogen deficiency (atrophic vaginitis); desquamative vaginitis; erosive lichen planus; and foreign body sequestration.

BACTERIAL VAGINOSIS

A. Diagnosis

1. Symptoms: Vulvovaginal odor (sometimes spontaneously described by the patient as "fishy") is the most common symptom, sometimes most prominent after intercourse; increased vaginal discharge is common but often is absent; external genital irritation and dysuria usually are absent
2. Signs: Homogeneous, malodorous, non-viscous, milky-white discharge, often uniformly coating the vaginal walls
3. Laboratory: Microscopy of saline preparation or Gram stained smear of vaginal fluid showing clue cells; yeast and trichomonads usually absent; vaginal pH ≥ 4.5 ; Gram stain (optional in lieu of saline preparation) shows increased mixed flora, decreased Gram-positive rods (*Lactobacillus* morphotypes), and increased small Gram-negative rods, Gram-variable curved rods, and Gram-positive cocci
4. Diagnostic (Amsel) criteria: At least 3 of the following:
 - a. Homogeneous vaginal discharge
 - b. pH ≥ 4.5 (unreliable if blood present)
 - c. Amine ("fishy") odor on addition of 10% KOH to vaginal fluid

- d. Vaginal fluid microscopy (saline preparation or Gram-stained smear) demonstrating that clue cells comprise at least 20 percent of epithelial cells

Other tests (e.g., rapid tests for amines or other products of bacterial overgrowth) may have adjunctive roles in diagnosis, if available

B. Treatment

Symptomatic women should be treated. Asymptomatic women who are found to have prominent signs on examination may also be offered treatment. Other indications for treatment in the absence of symptoms include planned pelvic surgery or instrumentation, including termination of pregnancy.

Note: Systemic treatment with metronidazole should be delayed until at least 12 hours since last ingestion of alcohol; advise patient to avoid alcohol until at least 24 hours following completion of therapy

1. Routine treatment

Metronidazole 500 mg PO *bid* for 7 days

OR

Metronidazole 0.75% gel, 1 applicator (5 g) intravaginally once daily for 5 days

OR

Clindamycin 2% cream, 1 applicator (5 g) intravaginally once daily for 7 days

2. Alternative regimens

Metronidazole 2.0 g PO single dose (for patients unlikely to comply with multiple-dose regimen; higher risk of relapse than for preceding regimens)

OR

Clindamycin 300 mg PO *bid* for 7 days

OR

Clindamycin vaginal ovules 100 mg intravaginally once daily at bedtime for 3 days

3. Resistant or recurrent BV

BV recurs in 50-70% of affected women. Options for therapy include re-treatment with metronidazole or an alternative regimen. Some experts advise consistent use of condoms in the hope recurrences will be prevented, but no data support its efficacy. Currently available oral or vaginal lactobacillus preparations, yogurt, and other intravaginal therapies are not effective. Vaginal douching is ineffective for treatment or

prevention of BV or any other infection, is potentially harmful, and should not be used.

4. Pregnant women

Pregnant women with BV should be offered treatment, regardless of the presence or absence of symptoms, although such treatment has not been shown to modify the risk of premature labor or other complications of pregnancy. Metronidazole may be used at any time during pregnancy. Oral treatment is preferred rather than an intravaginal regimen, to provide antimicrobial levels in the upper genital tract.

a. Regimen of choice: Metronidazole 500 mg PO *bid* for 7 days

b. Alternative: Clindamycin 300 mg PO *bid* for 7 days

C. Follow-up: PRN for persistent or recurrent symptoms

D. Sexual activity and management of sex partners

Encourage the patient to abstain from sex until treatment is complete. No male counterpart of BV in women has been defined, and no treatment of patients' male sex partners has been shown to prevent recurrence of the syndrome or to have health benefits for the partner. In the event of frequently recurrent BV, discuss possible use of condoms. Many female sex partners of women with BV also have BV; female partners should be examined and treated if BV is present.

TRICHOMONIASIS

A. Diagnosis

1. Symptoms and signs: Suggestive but non-diagnostic features include purulent, malodorous vaginal discharge (rarely with bubbles or overtly foamy); cervical petechiae ("strawberry cervix"); vaginal secretions pH ≥ 5.0 ; liberation of an amine (fishy) odor on addition of 10% KOH; saline preparation or Gram stain showing WBC. External dysuria, pruritis, and vulvovaginal erythema occasionally are present.

2. Laboratory

a. Demonstration of motile trichomonads on saline mount of vaginal exudate (insensitive; misses most cases)

b. Positive culture, direct FA test, or PCR for *T. vaginalis*

B. Treatment

Note: Systemic treatment with metronidazole should be delayed until at least 12 hours since last ingestion of alcohol; advise patient to avoid alcohol until at least 24 hours following completion of therapy

1. Metronidazole 2.0 g PO, single dose
2. Treatment failure, evidenced by persistence or recurrence despite sexual abstinence, or after intercourse only with a treated partner:

First persistent infection: Metronidazole 2.0 g PO, single dose

Second persistent infection: Metronidazole 500 mg PO *bid* for 7 days

Continued persistence: Discuss with clinic physician or other consultant

C. Follow-up: Return PRN if symptoms persist

D. Sexual activity and management of sex partners

1. Advise sexual abstinence for 1 week, or until symptoms have improved and partner(s) have been treated
2. Routine STD evaluation
3. Metronidazole 2.0 g PO, single dose

VULVOVAGINAL CANDIDIASIS

A. Diagnosis

1. Symptoms and signs: The most frequent symptom is vulvar pruritus or irritation, with or without increased vaginal discharge or external dysuria. Examination may show abnormal vaginal exudate, classically clumped or with adherent exudative plaques on the vaginal mucosa; erythema of the vaginal mucosa and labia may be present.
2. Vaginal fluid pH usually ≤ 4.5 ; amine odor absent after addition of KOH; fungal elements (budding yeast or pseudomycelia) often present (60% sensitivity)
3. Culture for *Candida* species is indicated for recurrent or treatment-resistant infection to exclude infection with *C. glabrata* or other non-*albicans* species

B. Treatment

Treatment usually is indicated if suggestive clinical features are present, even if fungal elements are not seen on KOH prep. However, women with repeatedly negative KOH preparations should not be repeatedly treated; refer to clinic MD or other consultant.

1. Uncomplicated, non-recurrent VVC

Intravaginal imidazole therapy and single dose oral fluconazole are equally effective; patient preference and cost should be considered in selecting treatment.

- a. Fluconazole 150 mg PO, single dose
- b. Intravaginal imidazole therapy
 - 1) Clotrimazole vaginal tablets or cream, 100 mg daily at bedtime for 3 days
 - 2) Other vaginal imidazole (miconazole, tioconazole, terconazole, or butoconazole) in the regimen indicated in each product's package insert

2. Pregnant women: Clotrimazole or other intravaginal imidazole, for at least 7 days total; **avoid fluconazole**

3. Complicated VVC

Complicated VVC means frequently recurrent infection (≥ 4 episodes per year); clinically severe disease (e.g., marked vulvar edema, superficial fissures); infection due to a non-*albicans* species of *Candida*; or infection in women with uncontrolled diabetes, advanced immunodeficiency, or other debilitating medical conditions.

a. Severe or recurrent VVC

For severe, non-recurrent cases, give initial therapy only; for recurrent VVC, give initial treatment followed by a maintenance regimen usually for 6 months; discuss all cases with clinic physician or other consultant

1. Initial treatment

Fluconazole 150 mg PO, single dose; repeat in 3 days
OR
Clotrimazole or other intravaginal imidazole for 7-14 days

2. Maintenance treatment

Clotrimazole 500 mg vaginal suppository once weekly
OR
Fluconazole 100-150 mg PO once weekly
OR
Ketoconazole 100 mg PO once daily
OR
Itraconazole 100 mg PO once daily
OR
Itraconazole 400 mg PO once monthly

Note: Patients prescribed chronic therapy with fluconazole, ketoconazole, or itraconazole require tests of liver function before starting therapy and periodically thereafter to monitor for possible hepatotoxicity; discuss with clinic physician or other consultant

b. Infection due to *Candida glabrata* or other *non-albicans* species

1. Initial treatment: Clotrimazole or other intravaginal imidazole for 7-14 days; avoid fluconazole
2. If infection persists or recurs: Boric acid 600 mg in gelatin capsules, intravaginally once daily for 14 days; **avoid boric acid during pregnancy**

c. Infection in diabetic, immunodeficient, or debilitated patients:
Manage according to the clinical syndrome, as outlined above

- C. Follow-up: Return PRN for recurrent or persistent symptoms; fungal culture is indicated for persistent or frequently recurrent cases
- D. Sexual activity and management of partners: Advise sexual abstinence as needed for comfort, until symptoms resolve. Examination and treatment of partners usually unnecessary, but a topical imidazole cream (e.g., miconazole, clotrimazole) is indicated for male partners with symptomatic penile candidiasis.

MUCOPURULENT CERVICITIS

A. Diagnosis

Chlamydia trachomatis is the most common recognized sexually transmitted cause of cervicitis, and treatment of MPC is designed primarily to eradicate presumptive chlamydial infection. Young age is the strongest predictor of chlamydial infection, and signs of MPC are more predictive of chlamydial infection in women under 25 years old than in older women. Gonococcal infection should be suspected primarily in populations and epidemiologic settings in which gonorrhea is common. The etiology of nongonococcal, nonchlamydial MPC is not well understood; *Mycobacterium genitalium* may cause some cases. Cervicitis in the absence of these infections is not known to lead to PID or other complications, and the role of antimicrobial therapy in management and the importance of treating patients' sex partners are unknown. Other conditions that may cause signs or laboratory indicators of cervicitis (e.g., endocervical leukocytosis) include vaginitis due to a foreign body or chemical irritation, use of an IUD, physiologic cervical ectopy, oral contraceptives or other estrogen therapy, pregnancy, and menstruation.

1. Clinical and Gram stain criteria: Validated criteria for the diagnosis of MPC have not been established; the diagnosis is more likely if at least one of these criteria is present:
 - a. Purulent endocervical discharge, including positive "swab test" (yellow or green color on endocervical swab viewed outside the vagina)
 - b. Edematous cervical ectopy; however, physiologic ectopy (usually without edema) often is present in women <25 years old, in those on systemic estrogen therapy for contraception or other indications, and during pregnancy
 - c. Endocervical bleeding induced by gentle swabbing ("friability")
 - d. Gram-stained smear of endocervical secretions showing ≥ 30 PMNs per 1000x (oil immersion) field
2. Endocervical culture or NAAT, or urine NAAT, for *C. trachomatis*
3. Endocervical culture or NAAT, or urine NAAT, for *N. gonorrhoeae*
4. When neither gonorrhea nor chlamydial infection is likely, tests may be indicated for HSV infection, *T. vaginalis* or pregnancy

B. Treatment

Non-chlamydial MPC has not been definitively associated with adverse outcomes in infected women or their sex partners. Therefore, the primary goal of treatment is to eradicate *C. trachomatis*, if present. Treatment of nonchlamydial MPC is indicated primarily for clinically symptomatic infection.

1. Treatment criteria for non-pregnant women
 - a. Presence of 2 or more of the 4 clinical or Gram stain signs of MPC (mucopurulent discharge, edematous ectopy, induced bleeding, ≥ 30 PMNs)

OR

- b. Presence of **only one** of the 4 signs of MPC, **plus any one** of the following:
 - 1) Age less than 25 years
 - 2) New sex partner in the past 60 days
 - 3) Otherwise unexplained vaginal discharge or other symptoms consistent with cervicitis
 - 4) Patient unable or unlikely to return for follow-up

In the absence of these criteria, treatment decisions for women with MPC normally should be deferred until the results of testing for *C. trachomatis* and *N. gonorrhoeae* are available, or until at least one sign of MPC is found to persist at a follow-up evaluation

2. Treatment criteria in pregnant women: Physiologic changes during pregnancy can mimic MPC, including edematous ectopy, swab-induced endocervical bleeding, and perhaps mucopurulent exudate; in the absence of gonococcal and chlamydial infection, treatment decisions should be made by (or in consultation with) the patient's obstetrical care provider

3. Treatment regimens

Azithromycin 1.0 g PO, single dose

OR

Doxycycline 100 mg PO *bid* for 7 days

OR

Other regimen (erythromycin, levofloxacin, ofloxacin) as for uncomplicated chlamydial infection

4. Also administer a single-dose regimen for uncomplicated gonorrhea if clinical or epidemiologic evidence suggest risk for gonorrhea (e.g., residence in a geographic area with a high rate of gonorrhea, prior gonorrhea within 12 months, substance use, or commercial sex work)
 5. Patient counseling: Patients should be advised that nongonococcal, nonchlamydial MPC is a clinical (syndromic) diagnosis of unknown significance and has not been clearly linked to PID or other adverse outcomes. The role of sexual transmission is unknown.
- C. Follow-up
1. Treated patients: return PRN for recurrent or persistent symptoms
 2. Untreated MPC in non-pregnant women: Return in 7-10 days to reassess symptoms, reexamine, and review diagnostic test results
 - a. Positive for *C. trachomatis* or *N. gonorrhoeae*: treat accordingly
 - b. Persistent clinical or Gram stain evidence of MPC (e.g., endocervical PMNs): Treat with azithromycin, doxycycline, or other therapy as for uncomplicated chlamydial infection
 - c. Evidence of MPC resolved: Do not treat; return PRN
 3. Following an initial course of antibiotic therapy, repeated treatment is not indicated for women with persistent nonchlamydial, nongonococcal MPC; such women should be reevaluated for trichomoniasis, BV and VVC.
- D. Sexual activity and management of partners
1. Advise sexual abstinence until the results of testing for *C. trachomatis* and *N. gonorrhoeae* are known, or until completion of treatment.
 2. Nonchlamydial, nongonococcal MPC may or may not be sexually transmitted. The syndrome has not been demonstrated to be associated with urethritis or other clinical entities in patients' male sex partners, and the need for treatment of patients' sex partners is unknown. Male sex partners of women with MPC should undergo routine STD diagnostic evaluation, including testing for urethral infection with *C. trachomatis* and *N. gonorrhoeae*. The male partners of women who meet criteria for presumptive treatment should be given similar therapy. Partners found to have NGU, chlamydial infection, or gonorrhea should be treated accordingly.
 3. Patient-delivered partner therapy is not indicated for the partners of women with MPC unless gonorrhea or chlamydial infection is documented

4. Male partners of women with persistent or recurrent MPC of unknown etiology should not receive repeated courses of antimicrobial therapy

PELVIC INFLAMMATORY DISEASE

Pelvic inflammatory disease denotes ascending pelvic infection involving the uterus (endometritis), fallopian tubes (salpingitis), and sometimes the ovaries (oophoritis) or the peritoneal cavity (pelvic or generalized peritonitis). Manifestations may include tubo-ovarian abscess or perihepatitis (Fitz-Hugh – Curtis syndrome). In sexually active young women, the predominant etiologies are *C. trachomatis* and *N. gonorrhoeae*; the proportion of cases due to each depends on their relative prevalences in patients' sex partner networks. Regardless of the inciting cause, non-sexually transmitted aerobic, facultative, and anaerobic bacteria often contribute to pathogenesis. Some cases of PID are not sexually transmitted and may be caused by *Haemophilus influenzae* or other organisms; previous PID and the presence of bacterial vaginosis may predispose to ascending infection with non-sexually transmitted vaginal bacteria. Long-term complications, which may occur after either overt or clinically silent PID, include tubal infertility, ectopic pregnancy, and chronic pelvic pain.

Because definitive diagnosis is difficult and often requires tests and procedures that may not be available in STD clinics and other outpatient settings, and because clinically silent PID is common, clinicians should maintain a low threshold for suspecting the diagnosis and treating patients with suspected but unproved PID. Additionally, because the microbial etiology rarely is known when treatment is prescribed, and the presence of gonorrhea or chlamydial infection does not exclude involvement by other pathogens, treatment must include a broad spectrum of antimicrobial coverage.

A. Diagnosis

Most but not all young women with the minimal diagnostic features summarized below have PID, and all should be treated for presumptive PID. Every patient with suspected PID should be discussed with the clinic physician or other consultant.

1. History: Low abdominal pain usually is present; vaginal discharge, menorrhagia, intermenstrual bleeding, fever, nausea, or vomiting may be present. However, symptoms may be subtle or completely absent, even when marked tubal inflammation is present.
2. Examination: Uterine and/or adnexal tenderness, often accompanied by cervical motion tenderness; enlargement, tenderness, or induration of one or both fallopian tubes; tender pelvic mass; mucopurulent cervicitis; direct or rebound abdominal tenderness; fever. Measure temperature, pulse, and blood pressure of all women with suspected PID.
3. Laboratory

- a. Gram-stained endocervical smear: PMNs with ICGND suggests gonococcal PID, but absence of ICGND does not exclude gonococcal etiology
- b. Endocervical culture or NAAT for *C. trachomatis*
- c. Endocervical culture or NAAT for *N. gonorrhoeae*
- d. Urine pregnancy test
- e. Complete blood count, erythrocyte sedimentation rate, C-reactive protein, pelvic ultrasound, and other tests may be indicated for selected patients (e.g., clinically severe symptoms or signs)

B. Treatment

Treatment for presumptive PID is recommended for all young women (≤ 25 years old) and for other women at risk for STD who have either cervical motion tenderness or uterine or adnexal tenderness. Most patients can be treated in outpatient settings with oral therapy.

1. Patients with the following criteria should be considered for referral for inpatient care and/or parenteral antibiotics:
 - a. Inability to exclude other causes of intrabdominal infection, appendicitis, ectopic pregnancy, or other surgical conditions
 - b. Suspected tubo-ovarian abscess or other evidence of clinically severe disease (e.g., peritoneal inflammatory signs, high fever)
 - c. Nausea and vomiting that preclude oral therapy
 - d. High risk of poor compliance with oral therapy
 - e. Clinically severe disease (e.g., peritoneal signs, suspected tubo-ovarian abscess, high fever)
 - f. Pregnancy
 - g. Re-examination in 48-72 hours is not possible
 - h. Inadequate response to initial outpatient therapy
2. Outpatient antibiotic regimens

There are limited data on long-term sequelae following different outpatient antibiotic regimens. The following regimens provide coverage for the common sexually transmitted etiologic agents and anaerobic bacteria:

- a. Ofloxacin 400 mg PO *bid* for 14 days
AND
Metronidazole 500 mg PO *bid* for 14 days

OR

- b. Ceftriaxone 250 mg IM, single dose
AND
Doxycycline 100 mg PO *bid* for 14 days
AND
Metronidazole 500 mg *bid* for 10-14 days

Note: The need for coverage against anaerobic bacteria is uncertain. For either regimen, if gastrointestinal intolerance develops on combination oral therapy, or if a contraindication to metronidazole is present (e.g., alcohol addiction, allergy), delete or discontinue metronidazole and continue ofloxacin or doxycycline.

- 2. If an IUD is present, it need not be routinely removed. However, removal should be considered if there is not a prompt clinical response to antibiotic therapy.
- 3. Ibuprofen 400-800 mg PO *tid* (or other non-steroidal anti-inflammatory drug in equivalent dosage) as needed for pain relief
- 4. Advise abstention from sexual intercourse for 2 weeks or longer, until symptoms resolve

C. Follow-up

Return for reexamination, including bimanual pelvic exam, 2-3 days after starting treatment, 4-7 days after completing treatment, and 2-4 weeks after completing treatment. If significant improvement is not seen within 3 days, consult with clinic physician or other specialist. If symptoms are worsening, further diagnostic evaluation is indicated and hospitalization may be necessary.

D. Sexual activity and management of partners

- 1. Advise sexual abstention until treatment has been completed, symptoms have resolved, and partner(s) have been treated
- 2. Refer the patient and partners to DIS staff, or otherwise arrange for partner management, according to recommendations for chlamydial infection and gonorrhea. Perform examination and tests for gonorrhea and chlamydia for all partners within the preceding 2 months, regardless of symptoms. Most partners of women with acute, non-recurrent PID should receive a regimen effective for both gonorrhea and chlamydial infection.

GENITAL HERPES

Genital herpes is the most prevalent STD in the United States. Most cases are due to herpes simplex virus type 2 (HSV-2), but a substantial minority of cases are due to the type 1 virus (HSV-1). Recurrent outbreaks are less frequent in anogenital HSV-1 than HSV-2 infection, so that over 90% of patients with recurrent genital herpes are infected with HSV-2. Most genital infections are subclinical, although the majority of such persons have recognizable symptoms. Most cases of genital herpes are acquired from sex partners with subclinical infection. HSV causes the large majority of genital ulcer disease in sexually active persons. HSV-2 infection, whether overt or subclinical, appears to markedly increase the risk of sexual acquisition of HIV.

A. Diagnosis

1. Clinical manifestations

Classical mucocutaneous lesions (grouped vesiculopustular or tender ulcerative lesions of the genitals or surrounding areas) are reliably diagnostic of genital herpes, but most cases lack such typical appearances. Many persons with genital herpes are entirely asymptomatic or have mild or atypical symptoms. Because of the chronic nature of HSV infection and non-classical presentations are common, the diagnosis should be confirmed by laboratory testing. In addition, the clinical course, prognosis, and potential for subclinical shedding and transmission vary greatly between genital HSV-1 and HSV-2 infection, so that HSV type should be determined by virologic and/or type-specific serological testing in all patients with genital herpes.

A patient with the first clinically recognized episode of genital herpes may have primary genital herpes (i.e., the person's first infection with either HSV-1 or HSV-2); nonprimary initial genital herpes (i.e., newly acquired HSV-2 infection in the presence of prior HSV-1 infection); or the first recognized episode of chronic infection (i.e., recurrent disease despite lack of prior diagnosis of genital herpes). By definition, recurrent genital herpes is present when a patient is experiencing the second or subsequent outbreak. The distinction between these categories may influence prognosis, treatment, and counseling.

2. Laboratory diagnosis

- a. Identification of HSV in a genital lesion or genital secretions by culture, an approved immunochemical method (e.g., the direct fluorescent antibody test), or PCR
- b. Serology: Only selected commercially available glycoprotein G-based type-specific serological tests (e.g., HerpeSelect™,

POCkit™) or Western blot reliably differentiate HSV-2 from HSV-1 antibody

- c. Serological test for syphilis
- d. Darkfield examination and syphilis serology should be performed on all patients with genital ulcer disease not typical for genital herpes; immediate serology (e.g., stat RPR) should be done if available

B. Treatment

1. Primary or initial non-primary genital herpes: Systemic antiviral therapy is indicated for all patients with initial episodes of genital herpes, unless healing is well underway, and for many patients with recurrent genital herpes. Antiviral therapy should be started as early as possible after onset of symptoms, but may be effective for initial herpes for as long as new lesions continue to appear or until lesion pain subsides.

Acyclovir 400 mg PO *tid* for 10 days

OR

Famciclovir 250 mg PO *tid* for 10 days

OR

Valacyclovir 1 g PO *bid* for 10 days

2. Episodic treatment of patients with recurrent genital herpes: Oral therapy is helpful for some patients with recurrent herpes, especially when self-initiated at the onset of symptoms. The diagnosis of HSV infection must be documented by appropriate laboratory testing before starting such treatment; however, once the diagnosis of HSV infection has been established, repeat laboratory confirmation is not required for subsequent episodes.

Acyclovir 400 mg PO *tid* for 3 days

OR

Acyclovir 800 mg PO *bid* for 2 days

OR

Famciclovir 125 mg PO *bid* for 3 days

OR

Valacyclovir 500 mg PO *bid* for 3 days

3. Suppressive therapy: Many patients with recurrent genital herpes are candidates for suppressive treatment. Suppressive therapy often improves infected persons' quality of life and should be discussed with all patients with symptomatic recurrent infection. Suppressive treatment reduces but does not entirely eliminate subclinical viral shedding. Valacyclovir has been shown to reduce but not eliminate the risk of transmission of genital HSV-2 infection to infected persons' sex partners.

Periodically (e.g., every 6-12 months) discuss the need for continued suppressive therapy with the patient.

Acyclovir 400 mg PO *bid*

OR

Famciclovir 250 mg PO *bid*

OR

Valacyclovir 500 mg PO once daily

OR

Valacyclovir 1.0 g PO once daily (for patients with ≥ 10 recurrences per year or with symptomatic recurrences on 500 mg daily)

4. Pregnant women: Discuss all cases of genital herpes in pregnant women with the clinic physician or other consultant. Acyclovir is safe and effective in pregnancy; valacyclovir and famciclovir likely are safe, but experience is limited. Treatment with acyclovir usually is indicated for pregnant women with symptomatic initial genital herpes. Acyclovir also is effective during the last month of pregnancy to reduce the risk of cesarean section in women with recurrent genital herpes. Such treatment should be prescribed only by the patient's obstetrical provider.
5. HIV-infected patients: Discuss treatment with clinic physician or consultant; higher doses of antiviral drugs are recommended
6. Supportive care: Advise patient to keep affected area clean and dry; advise sexual abstinence until all lesions have healed. Analgesics or topical anesthetic agents may be helpful for selected patients.

C. Follow-up

1. First-episode or newly diagnosed herpes: Return for reevaluation within 1-2 weeks after diagnosis (or sooner if symptoms are severe) to assess clinical response and initiate or reinforce counseling messages
2. Recurrent herpes: Return PRN for persistent or recurrent symptoms
3. Patients on chronic suppressive therapy: Return every 6-12 months for re-counseling and to reassess the need for continued treatment

D. Sexual activity, management of partners, and preventing transmission

1. Advise patients with symptomatic outbreaks to abstain from sex with uninfected partners and those whose HSV infection status is unknown from onset of symptoms (including prodrome, if present) and until lesions have healed completely. No transmission risk exists for patients whose partners are known to be infected with the same virus type; sexual activity may be determined by comfort without concern for sexual transmission.

2. Routine STD evaluation and counseling of partners is recommended, unless there is a clear history of genital herpes in the partner and the partner has been comprehensively counseled. Partners not previously diagnosed with genital herpes should be offered diagnostic testing by viral culture if lesions are present, or by type-specific serological testing.
3. All infected persons and their partners should be counseled about strategies to help prevent sexual transmission of HSV. Strategies that have been documented as useful but are known to be incompletely effective are avoiding sex in the presence of symptomatic outbreaks; consistent use of condoms; and suppressive antiviral therapy with valacyclovir. The efficacy of acyclovir and famciclovir in preventing transmission is uncertain.
4. All infected persons and their partners (including the male partners of infected women) should be counseled about strategies to prevent perinatal transmission of HSV. Prevention depends on avoiding delivery when overt anogenital herpetic lesions are present and on preventing initial maternal infection during the third trimester of pregnancy. Such prevention depends in turn on knowledge of the pregnant woman's and often her partner's HSV status, and may include avoidance of vaginal intercourse and sometimes cunnilingus in the third trimester, and may include suppressive antiviral therapy of the mother or her partner.

GENITAL WARTS

Genital and anal warts are caused by certain types of human papillomavirus (HPV), usually type 6 or 11. Different types, especially HPV-16, 18 and others, cause most cases of cervical and other anogenital squamous cell cancers and dysplasia. The large majority of HPV infections of all types are subclinical. These guidelines address only anogenital warts and not anogenital cancers, their prevention, or the diagnosis and management of subclinical HPV infection. Warts of the face or mouth often are a sign of advanced HIV infection or other impairment of cell-mediated immunity.

A. Diagnosis

Visual diagnosis is the norm: Typical "cauliflower" or hyperkeratotic, papular lesions, usually involving the external genitalia, perineum, or perianal area; or "flat" condylomata of the cervix documented by colposcopy

B. Treatment of external anogenital warts and small, easily accessible meatal and vaginal mucosal warts

1. Provider-applied therapies

a. Liquid nitrogen: Treat only visible warts; freeze each lesion 10-15 seconds or until white, allow the lesion to thaw, then repeat; 2 or 3 weekly or biweekly treatments usually are required; safe in pregnancy

b. Podophyllin resin 25% in tincture of benzoin, applied once or twice weekly until treated warts resolve

Podophyllin should be washed off 2 hours after the first application; if there is no unusual pain or inflammation, each subsequent application may remain for 4-8 hours or, with the clinic physician's or consultant's approval, for up to 24 hours; contraindicated in pregnancy

c. Trichloroacetic acid, 50-85%, applied 1-3 times weekly

Removal after application is unnecessary; safe in pregnancy

2. Patient-applied therapies

a. Imiquimod 5% cream once daily (usually at bedtime) 3 times weekly for up to 16 weeks; the treated area should be cleansed 6-10 hours after each application; safety in pregnancy has not been determined

b. Podofilox 0.5% *bid* for 3 days, followed by 4 days without treatment; repeat this weekly cycle as needed for up to 4 weeks; avoid in pregnant women

3. Consider referral of selected patients to an appropriate specialist for possible surgical excision, laser therapy, or other treatment: Widespread anogenital warts, cervical warts, giant condylomata, mucosal warts (other than small, easily accessible vaginal or meatal lesions), warts not responding to the above measures over 3-4 weeks or repeated therapy
- C. Follow-up: PRN if warts reappear following clinical resolution; re-treat once or twice weekly until visible warts resolve; advise patient that recurrences are common and to return for evaluation of any new lesion.
- D. Sexual activity, partner management, and counseling
1. Advise sexual abstinence with new partners until warts are resolved; abstinence with ongoing partners is optional, because most such partners can be presumed to be infected.
 2. Patients should be advised to refer symptomatic partners for evaluation for genital warts. Routine evaluation of asymptomatic partners is optional and should be individualized, but in most cases the partners of persons with first episodes of newly diagnosed genital warts should be advised to attend for clinical evaluation, screening for other STDs, and counseling.
 3. Inform patients and partners that most genital HPV infections are subclinical and remain so, without visible warts or development of cancer or precancerous changes; that different HPV types cause genital warts compared with cancer and precancerous dysplasia; that most sexually active persons are or have been infected with one or more HPV types; and that consistent condom use may help prevent transmission, but condoms are incompletely effective.

SYPHILIS

Discuss all cases of suspected or proven syphilis with the clinic physician or other consultant prior to treatment, regardless of the stage or duration of infection

A. Diagnosis

1. Clinical manifestations

The clinical manifestations are manifold and complex, but the diagnosis should be suspected in all patients at risk for STD who present with genital ulcer disease or with generalized skin rash or lymphadenopathy.

2. Laboratory diagnosis

Darkfield microscopy is indicated for any patient with genital, anal, or perianal ulcerative lesion not typical of genital herpes and for any non-genital, non-oral lesion in which secondary syphilis is a consideration. HIV testing is indicated for all patients with syphilis or in whom syphilis is suspected. Syphilis serology (RPR or VDRL, with confirmatory *Treponema pallidum*-specific testing if reactive) is indicated for all patients with undiagnosed genital or perianal ulcers or inguinal lymphadenopathy.

Stat RPR is indicated, if available, if the patient has darkfield-negative genital or perianal ulcerations that are not typical of genital herpes; any wart-like lesion not typical for HPV infection; any undiagnosed generalized skin rash; and for sex partners of persons with infectious syphilis.

3. Lumbar puncture: Patients with any of the following conditions should routinely be referred to the clinic physician or other consultant to consider diagnostic lumbar puncture for CSF testing:

- a. Neurological or ophthalmologic symptoms or signs, regardless of syphilis stage or duration
OR
- b. VDRL titer 1:32 or higher
OR
- c. HIV infection
OR
- d. Planned treatment of syphilis more than 1 year in duration with a drug other than penicillin
OR
- e. Failure of prior syphilis therapy, regardless of stage, duration, or treatment used

B. Treatment

For all stages of syphilis, penicillin is the treatment of choice. Compliance is especially important when multiple dose therapy is used (e.g., doxycycline); deletion of only a few doses or slight shortening of therapy significantly increases the failure rate.

1. Primary, secondary, or latent syphilis less than one year in duration
 - a. Benzathine penicillin G 2.4 million units IM, single dose
OR
 - b. Doxycycline 100 mg PO *bid* for 14 days; use only if penicillin is contraindicated by type I allergy or other serious reaction (e.g., dyspnea, severe rash, urticaria, angioedema, or anaphylaxis); limited to reliable patients who will adhere to the entire course of therapy
OR
 - c. Azithromycin 2.0 g PO, single dose, repeated after 1 week; use only with physician/consultant approval, in highly selected outreach settings, or when other standard therapy is not possible

Counsel all patients about the possibility of a Jarisch-Herxheimer reaction (common manifestations include fever, chills, malaise, headache, and exacerbation of skin rash); treatment with ibuprofen or another non-steroidal anti-inflammatory drug is indicated if symptoms appear

2. Late syphilis (more than 1 year in duration), excluding neurosyphilis
 - a. Benzathine penicillin G 2.4 million units IM weekly for 3 doses (total 7.2 million units)
OR
 - b. Doxycycline 100 mg PO *bid* for 4 weeks; use only if penicillin is contraindicated by type I allergy or other serious reaction (e.g., dyspnea, severe rash, urticaria, angioedema, or anaphylaxis); limited to reliable patients who will adhere to the entire course of therapy

3. Neurosyphilis

Discuss management with an expert in the management of neurosyphilis (e.g., neurologist or infectious diseases specialist)

- a. Aqueous penicillin G 18-24 million units IV per day, either as a continuous infusion or in divided doses q 4 h, for 10-14 days, optionally followed by benzathine penicillin G 2.4 million units IM weekly for 3 doses
OR

- b. Procaine penicillin G 2.4 million units IM once daily, plus probenecid 500 mg PO *qid*, both for 10 days, optionally followed by benzathine penicillin G 2.4 million units IM weekly for 3 doses

Patients with history of penicillin allergy: Consider penicillin skin-testing; if skin-testing confirms allergy or if the patient gives a history of anaphylaxis to penicillin, consider penicillin desensitization.

4. Syphilis in pregnancy

Penicillin is the only treatment known to be effective in preventing or treating syphilis in the fetus. If a pregnant patient is allergic to penicillin, refer her for desensitization and treatment with penicillin. Treatment of early syphilis in women in the second half of pregnancy should be undertaken with obstetrical consultation, because the Jarisch-Herxheimer reaction may be manifested by premature labor or fetal distress.

- C. Follow-up

Treatment failure is common in all stages of syphilis, even with recommended treatment regimens. In addition to resolution of signs and symptoms, the serological response is used to define cure. Specific criteria vary according to the stage and duration of infection, but in general the RPR or VDRL titer should decline by 2 or more dilutions (e.g., 1:16 to 1:4) within 3 months of treatment and usually declines to negative within 12 months. Persistent seropositivity at low titer (e.g., weakly reactive or 1:2) is more frequent in syphilis more than 1 year in duration than in more recent infections. Patients in whom these standards are not achieved should be managed in consultation with an expert in syphilis.

1. Early syphilis (primary, secondary, and early latent): Clinical examination after 1 week; repeat serology (quantitative VDRL or RPR) 1, 3, 6, and 12 months after treatment; if HIV-negative (or if not tested), advise repeat HIV testing at 3-6 months
2. Late syphilis: Repeat serology (quantitative VDRL or RPR) 3, 6, 12, and 24 months after start of treatment
3. Neurosyphilis: As for late syphilis, plus follow-up CSF examination 3 and 6 months after treatment, then at 6 month intervals until normal
4. Syphilis in HIV-infected patients: Repeat examination at weekly intervals until clinical resolution; repeat serology 1, 3, 6, 9, and 12 months after treatment, then yearly (even if VDRL/RPR becomes negative)

D. Sexual activity and management of partners

Refer all patients to Public Health STD DIS for counseling and interview. When partners come in, review evaluation and management with the DIS staff before proceeding with examination and treatment. The following are general guidelines that will apply to most but not all patients:

1. Advise sexual abstinence for 1 week after initiation of penicillin therapy; or until completion treatment with other regimens
2. Partners of patients with early syphilis: Routine history, examination, and syphilis serology, including stat RPR. Treatment should be given to all partners who have had sexual contact with the index case within the preceding 3 months (i.e., benzathine PCN, 2.4 million units IM x 1); strongly advise HIV testing
3. Partners of patients with late syphilis: Serology (including a specific treponemal test, even if VDRL/RPR negative) in all steady partners, and for the children of infected women; treat only those with reactive syphilis serologies

PROCTITIS, PROCTOCOLITIS, AND ENTERITIS

A. Diagnosis

1. Clinical manifestations
 - a. Proctitis: The main symptoms are mucus or exudate on stools anal pruritis, hematochezia, pain, or tenesmus; constipation in severe cases; anal erythema or lesions; on anoscopy, mucosal edema, erythema, bleeding, ulceration, or inflammatory exudate may be present, with abnormalities limited to the distal 10-12 cm of the rectum
 - b. Proctocolitis: Symptoms of proctitis, plus diarrhea, sometimes bloody, and/or abdominal cramps; examination as for proctitis, plus inflammatory changes extending above 12 cm; abdominal palpation may show left lower quadrant tenderness
 - c. Enteritis: Diarrhea, usually not bloody; abdominal pain, cramps, nausea, bloating, or fever; anoscopy normal; abdominal palpation may reveal diffuse or localized tenderness

2. Laboratory testing

- a. Anoscopically obtained Gram-stained smear if symptoms or signs suggest proctitis or proctocolitis
- b. Anal or anoscopically collected specimen for culture for *N. gonorrhoeae*
- c. Anal or anoscopically collected specimen for culture for *C. trachomatis*
- d. Anal or anoscopically collected specimen for culture or PCR for HSV
- e. Darkfield microscopy if perianal or rectal ulceration is observed
- f. Syphilis serology; stat RPR (if available) if perianal or rectal ulceration is observed
- g. Selected patients, including but not limited to those with fever, abdominal cramps, bloody diarrhea, or history of overt fecal-oral exposure (e.g., anilingus): Tests may be indicated for enteric pathogens (e.g., *Salmonella*, *Shigella*, *Campylobacter*), for ova and parasites, and for *Giardia* antigen; discuss with clinic physician or consultant
- h. HIV-infected persons: Patients with colitis or proctocolitis should be tested, or referred for testing, for *Clostridium difficile* infection and inflammatory bowel disease and, depending on the severity of immune impairment; colitis due to cytomegalovirus; those with enteritis may need evaluation, depending on the severity of immune impairment, for *Mycobacterium avium* complex, *Cryptosporidium*, *Isospora*, *Cyclospora*, or microsporidia

B. Treatment

1. If gonorrhea, non-LGV chlamydial infection, HSV infection, or syphilis is documented: Treat as outlined in appropriate sections above
2. Acute proctitis of unknown etiology
 - a. In the absence of pain, perianal ulceration, or other signs or symptoms suggestive of HSV infection: Single-dose regimen for gonorrhea, plus doxycycline 100 mg PO bid for 7 days
 - b. Add acyclovir, famciclovir, or valacyclovir, as described for initial genital herpes, if pain is prominent, perianal or mucosal ulceration is observed, or patient has been sexually exposed to a partner with herpes

3. Other diagnoses should be discussed with clinic physician or consultant. Usual treatments include:
 - a. Giardiasis: Metronidazole 250 mg PO *tid* for 5 days
 - b. Amebiasis: Metronidazole 750 mg PO *tid* for 10 days, followed by paromomycin 500 mg PO *tid* for 7 days
 - c. Shigellosis: Ciprofloxacin 500 mg PO *bid* for 7 days
 - d. Campylobacter enteritis: Erythromycin 500 mg PO *qid* (or 666 mg *tid*) for 7 days; or ciprofloxacin 500 mg PO *bid* for 7 days
- B. Counseling: Patients should be counseled about the risk of transmission of enteric infections and hepatitis A by oral-anal exposure
- D. Follow-up: Depends on diagnosis and response to treatment; most patients with proctitis, proctocolitis, or enteritis require at least one repeat examination and collection of appropriate specimen(s) for test of cure 7-14 days after completion of treatment; discuss with clinic physician or consultant.
- D. Sexual activity and management of partners
 1. Advise sexual abstinence until the diagnosis is established, definitive treatment is complete, and symptoms have resolved
 2. Syphilis, gonorrhea, chlamydia, herpes: See appropriate Guidelines sections
 3. Other diagnoses: Test all sex partners within the preceding 4 weeks for the identified pathogen(s); epidemiologic treatment usually not necessary

HIV INFECTION

A. Diagnosis

1. Clinical manifestations of chronic HIV infection

Generalized lymphadenopathy (nontender nodes ≥ 1 cm in diameter in ≥ 2 non-inguinal areas) is a common manifestation that carries few or no implications of overt immunodeficiency. Clinical indicators of possible advanced immunodeficiency due to HIV include unexplained fever, malaise, anorexia, weight loss, diarrhea, cough, dyspnea, dishidrosis, generalized pruritus, severe seborrheic dermatitis, oral or perianal candidiasis, oral hairy leukoplakia, facial or oral warts or molluscum contagiosum, herpes zoster in a young adult, and severe, persistent oral or anogenital HSV infection. STDs or genitourinary conditions that generally *do not* imply HIV infection or immunodeficiency include recurrent or severe vulvovaginal candidiasis, cervical dysplasia, recurrent genital or perianal warts, repeated urethritis, and PID.

2. Clinical manifestations of primary HIV infection

Persons with primary HIV infection may be asymptomatic, or may present with malaise, including fever, rash, lymphadenopathy, fatigue, pharyngitis, or aseptic meningitis

3. Laboratory diagnosis

Screening HIV serological tests, with appropriate pre- and post-test counseling, are indicated and should be routinely recommended to patients presenting for STD related care, with particular emphasis on persons at high risk for HIV (MSM, IDU, their sex partners, and the sex partners of other HIV-infected persons). Diagnostic HIV testing is recommended for persons with the clinical manifestations summarized above. A test for HIV viral load (available at Harborview Medical Center's Madison Clinic and Emergency Department, and at other selected facilities) is indicated in patients with clinical syndromes suggestive of primary HIV infection.

B. Management

1. Overt AIDS or related conditions: Refer to primary physician, HMC Madison Clinic, or other source for definitive care
2. Primary HIV infection: Primary infection should be suspected in the case of possible exposure to HIV or injection drug use and a compatible clinical syndrome. Because aggressive antiviral therapy (including a protease inhibitor) during primary HIV infection may slow progression of HIV disease by lowering the "set point" level of viremia, such patients should be referred to a clinician with expertise in HIV/AIDS care, or to a clinical

trial through the UW AIDS Clinical Trials Unit. Consult with clinic physician regarding options. Further, because persons experiencing primary HIV infection often have very high viral loads, they may be at high risk of transmitting HIV to sex partners during this time. Consequently, counseling the patient about abstinence or safe sex precautions during this period is critical, as is evaluation and counseling of all sex and needle-sharing partners.

3. Asymptomatic HIV infection: Counsel about interpretation of seropositivity, need for medical care, prevention of HIV transmission, and personal risk reduction. If not done recently, test serologically for syphilis and viral hepatitis (A, B, and C). Serologically determine HAV and HBV infections status and recommend immunization against either or both viruses, as appropriate. Prompt referral should be made to a provider or clinic with expertise in HIV/AIDS care.
4. HIV post-exposure prophylaxis (PEP): All persons sustaining a substantial exposure to HIV (including percutaneous injury or mucous membrane exposure involving blood or other body fluids), especially from a known HIV-infected person, should be offered PEP with an approved antiretroviral drug regimen. In some circumstances, persons with recent sexual exposure (i.e., <72 h) to HIV-infected individuals may be candidates for PEP, although the efficacy and timeframe for initiating post-sexual exposure prophylaxis have not been established. Consult with clinic physician or other consultant for management options. PEP for either occupational or non-occupational HIV exposures can be provided through the HMC Madison clinic or, when the Madison clinic is closed, the Harborview Emergency Department.

C. Follow-up

1. Return or telephone for HIV test results and post-test counseling, usually within 2 weeks (see Routine Evaluation)
2. Refer persons with newly diagnosed HIV infection for ongoing care by a physician or clinic with expertise in HIV/AIDS management. The Public Health "One on One" program is available for initial clinical assessment and management of patients who wish to preserve anonymity or otherwise decline to establish care in a traditional setting.
3. Pregnancy: Refer to care by a provider expert in HIV in pregnant women and prevention of perinatal transmission (e.g., Northwest Family Center)

D. Sexual activity and management of partners

Counsel all sexual partners and those with whom the patients has shared injection equipment about risk reduction and prevention of transmission; encourage serologic screening for HIV infection; follow HIV partner notification guidelines

URINARY TRACT INFECTION

A. Diagnosis

1. History: Cystitis in women generally presents symptomatically, with dysuria, frequency, urgency, suprapubic pain, or hematuria. Flank pain or fever, with or without symptoms of cystitis, suggests upper urinary tract infection (pyelonephritis). Women who present with dysuria without urgency or frequency should be evaluated for sexually transmitted urethritis due to *C. trachomatis*, *N. gonorrhoeae*, or HSV. Pyelonephritis often presents with abdominal or flank pain and fever, and the distinction from PID may be difficult.
2. Examination: Genital examination usually is normal. Abdominal and bimanual examinations should be done and often show suprapubic or bladder tenderness; flank or upper quadrant abdominal tenderness suggests pyelonephritis. Measure temperature, pulse, and blood pressure of patients with symptoms or signs that suggest pyelonephritis.
3. Laboratory diagnosis

Note: All urine diagnostic tests in persons being evaluated for UTI should be performed on clean-catch specimens

- a. Leukocyte esterase test: Positive result suggests pyuria and probable diagnosis of UTI; if LE is negative and clinical suspicion is strong for UTI, microscopic examination and culture should be done
- b. Urinalysis: Centrifuged midstream specimen showing ≥ 15 WBC per 400x (high-dry) field, often with RBC, clumped WBC, or bacteria; in an uncentrifuged specimen, >1 WBC per 400x field indicates pyuria; in women, squamous epithelial cells suggest poor clean-catch technique
- c. Obtain midstream urine culture in all males with suspected UTI; in women who have recently been hospitalized, had urinary tract instrumentation, or received antibiotics; women with suspected recurrent UTI, upper tract infection, or other complicated infection; and pregnant women

Interpretation of quantitative culture report:

- 1) $<10^2$ colony forming units (CFU) per ml: No infection
- 2) 10^2 - 10^3 CFU per ml, single organism: Interpretation depends on organism isolated, but typical uropathogen (*E. coli*, *S. saprophyticus*, *Klebsiella*, *Proteus*) in a symptomatic women usually denotes infection
- 3) $\geq 10^4$ CFU per ml, single uropathogenic organism: Positive culture, indicates infection
- 4) 2 or more species present: Usually indicates contaminated specimen, most often due to poor clean-catch technique, but may indicate infection; discuss with clinic physician or consultant

B. Treatment

1. Acute, non-recurrent lower UTI (e.g., cystitis) in women

The antimicrobial susceptibility of uropathogens varies across populations, geographic areas, and over time. When culture is not done or antimicrobial susceptibility is unknown, selection of routine treatment (e.g., trimethoprim/sulfamethoxazole or a fluoroquinolone) should be based on local patterns of antimicrobial susceptibility.

Trimethoprim/sulfamethoxazole 160 mg/800 mg (1 “double strength” tablet) PO *bid* for 3 days

OR

Ciprofloxacin 250 mg PO *bid* for 3 days

OR

Levofloxacin 250 mg PO once daily for 3 days

OR

Ofloxacin 200 mg PO *bid* for 3 days

OR

Other fluoroquinolone for 3 days

ALTERNATIVES

Nitrofurantoin macrocrystals (long-acting formulation, Macrobid™) 100 mg PO *bid* for 7 days

OR

Nitrofurantoin macrocrystals (standard formulation) 50 mg PO *qid* for 7 days

Note: Although 3 days treatment is recommended for most regimens, 7 days therapy is recommended for nitrofurantoin.

- b. Phenazopyridine 200 mg PO *tid* for 3 days may be given as needed for dysuria
 - c. If sulfonamides, trimethoprim, quinolones, and nitrofurantoin are contraindicated: Discuss with clinic physician or other consultant; an oral cephalosporin, amoxicillin, or amoxicillin-clavulanate often can be used
2. Women with recurrent UTI (≥ 3 episodes per year): Prophylactic (e.g., postcoital) antimicrobial therapy may be indicated; discuss with clinic physician or other consultant
3. Men, non-pregnant women with complicated or recurrent UTI, or treatment failure: Discuss with clinic physician or other consultant; in most cases, while awaiting culture and antimicrobial susceptibility results, therapy should be initiated with a fluoroquinolone (e.g., ciprofloxacin, ofloxacin, levofloxacin) for 7 days (for lower tract infection in women) or 14 days (UTI in men or complicated infection)
4. Pregnant women: Routine treatment duration for cystitis or asymptomatic bacteriuria is 7 days; those with suspected upper tract infection should be referred for probable inpatient management and typically receive 14 days treatment. Outpatient treatment options for uncomplicated lower tract infection include:

Cephalexin 500 mg PO *qid* for 7 days

OR

Nitrofurantoin macrocrystals (long-acting formulation, Macrobid™)
100 mg PO *bid* for 7 days

OR

Nitrofurantoin macrocrystals (standard formulation) 50 mg PO *qid*
for 7 days

C. Follow-up

1. If urine culture was done, check antimicrobial sensitivity profile to confirm appropriate therapy
2. Women with uncomplicated, non-recurrent lower UTI: Return PRN if symptoms persist or recur
3. Women with complicated or frequently recurring infection: Return for urinalysis and culture 7 days after treatment; for recurrent infection, discuss possible prophylactic (e.g., post-coital) therapy with clinic physician or other consultant

4. Men: Repeat urinalysis and culture 1-2 weeks after completing therapy; discuss with clinic physician or other consultant re possible need for urological evaluation

D. Sexual activity and management of sex partners

Advise sexual abstinence until symptoms resolved; partners need not be referred or examined

VIRAL HEPATITIS

Hepatitis B virus (HBV) is transmitted primarily through sexual or parenteral exposure. Hepatitis A virus (HAV) often is sexually transmitted by practices that result in fecal-oral contact. The extent to which hepatitis C virus (HCV) is sexually transmitted is uncertain, but available evidence suggests that sexual transmission is inefficient and uncommon. These guidelines emphasize screening, diagnosis, and management of chronic infection and prevention. Patients with suspected acute viral hepatitis should be managed in consultation with the clinic physician or other consultant, or referred for care.

A. Diagnosis

1. Clinical manifestations: Most patients with either acute or chronic HBV and HCV and some with acute HAV infection are asymptomatic and anicteric. Symptoms of acute viral hepatitis include malaise, anorexia, fever, abdominal pain, nausea, jaundice, or dark urine, sometimes preceded by skin rash, arthralgias, and/or acute polyarthritis (especially hepatitis B). Examination may show right upper quadrant abdominal tenderness, hepatic enlargement, and jaundice, often most easily detected in the ocular sclera or frenulum of the tongue.
2. Hepatitis screening
 - a. HAV: Offer screening to MSM and persons age 18 or younger if there is no history of prior hepatitis A or immunization
 - b. HBV: Offer screening to MSM, IDU, and persons age 18 or younger if there is no history of prior hepatitis B or immunization; and to all sex partners of MSM or IDU
 - c. HCV: Offer screening to IDU if prior HCV testing has not been performed in the preceding year
3. Laboratory diagnosis
 - a. Acute hepatitis: Test for HBs, HBs antibody, HBc antibody, HAV antibody (IgG and IgM), and HCV antibody

- b. Screening tests
 - 1) Age ≤ 18 years, MSM, and female sex partners of MSM: HBs, HBs antibody, HBc antibody, HAV antibody (IgG only)
 - 2) IDU: HBs, HBs antibody, HBc antibody, HCV antibody
 - 3) Partners: Testing for HBV (HBs, HBs antibody, HBc antibody) is indicated for sex and needle-sharing partners of persons with acute or chronic HBV infection. Testing for HAV (IgG and IgM) is indicated for sex partners of persons with acute hepatitis A. The needle-sharing partners of HCV-infected persons should be tested for HCV antibody.
- c. Hepatic enzymes, complete blood count, and other tests often are indicated in patients suspected to have acute or active hepatitis; discuss with clinic physician, or refer to another consultant or the patient's primary physician

B. Treatment

- 1. Clinical management of suspected hepatitis or serologically documented chronic HBV or HCV infection: Refer to patient's primary care clinician or suitable consultant; Harborview Medical Center's Viral Hepatitis Clinic is available for such referral
- 2. Vaccination
 - a. Adolescents (≤ 18 years old): Routinely immunize against HAV and HBV, except in patients with history of prior infection or completed immunization series. In previously unvaccinated persons, administer the first dose of vaccine without awaiting the serological test results. For persons who give history of prior immunization but without objective documentation, initiate vaccination and perform serological tests for HAV antibody and/or HBs antibody. When resources are limited and the likelihood of prior infection is low, immunization may be undertaken without serological testing.
 - b. Injection drug users and others at high risk for HBV (e.g., persons born in developing countries): Await results of HBV serological screening tests before initiating HBV vaccination; however, vaccination may be initiated prior to availability of serological test results if follow-up is uncertain
 - c. MSM: Await results of serological screening tests for HAV and HBV before initiating vaccination; however, vaccination may be initiated prior to availability of serological test results if follow-up is uncertain

- C. Follow-up: Discuss with clinic physician or consultant, or refer to patient's primary physician
- D. Sexual activity and partner management
 - 1. Advise sexual abstinence during maximally infectious periods (e.g., until jaundice and acute symptoms resolve in acute hepatitis)
 - 2. Evaluate partners: Routine STD evaluation; initiate vaccination for sex partners of persons with infectious HAV or HBV infection, and for needle-sharing partners of persons with infectious HBV. Some partners of persons with acute HAV may be candidates for immune serum globulin (ISG), and those exposed to HBV may benefit from treatment with hepatitis B immune globulin; discuss options with clinic physician, Public Health Communicable Diseases (296-4774), or other consultant.

LYMPHOGRANULOMA VENEREUM

- A. Diagnosis
 - 1. Clinical: The classical manifestation is inguinal lymphadenopathy, with or without NGU or a transient minor genital ulcer; acute LGV proctocolitis is occasionally seen, especially in MSM
 - 2. Laboratory
 - a. Isolation of an LGV strain of *C. trachomatis* from urethra, cervix, rectum, or lymph node aspirate
 - b. *C. trachomatis* serology (microimmunofluorescence or complement fixation) or may be diagnostic on a single specimen, but acute and convalescent specimens are preferred; discuss with clinic physician, the University of Washington Chlamydia Laboratory (341-5300), or other consultant
- B. Treatment
 - Doxycycline 100 mg PO *bid* for 3 weeks; discuss with clinic physician or other consultant
- C. Follow-up: Weekly for at least 4 weeks, or until resolved
- D. Sexual activity and management of partners: Advise sexual abstinence until treatment is completed and clinical manifestations have resolved. Refer all patients to DIS staff for counseling and interview; routine STD examination plus

chlamydia cultures and serology for all partners within 2 months; discuss need for treatment with clinic physician or consultant

CHANCROID

A. Diagnosis

1. Clinical manifestations: Usually 1 to 3 tender, non-indurated genital ulcers with purulent bases, with or without inguinal lymphadenopathy; fever and other systemic symptoms usually are absent; a history of recent sexual exposure in an endemic area is helpful
2. Laboratory
 - a. *Haemophilus ducreyi* identified by culture or PCR from lesion or lymph node aspirate
 - b. Gram-stained smear of lymph node aspirate showing typical small Gram-negative bacilli; Gram stain of lesion may be misleading and is not recommended
 - c. Obtain tests for HSV and syphilis, including stat RPR and darkfield microscopy; strongly encourage HIV testing

B. Treatment

Discuss all cases with clinic physician or other consultant. Avoid single-dose treatment in HIV-infected persons. Some cases require therapeutic or diagnostic needle aspiration of an infected lymph node.

Azithromycin 1.0 g PO, single dose

OR

Ciprofloxacin 500 mg PO bid for 3 days

OR

Ceftriaxone 250 mg IM, single dose

OR

Erythromycin 500 mg PO qid (or 666 mg tid) for 7 days

- C. Follow-up: Re-examine after 2-3 days, then weekly until healed; repeat syphilis serology and HIV serology (if HIV-negative or not tested at time of diagnosis) in 2-3 months

- D. Sexual activity and management of partners: Advise sexual abstinence until treatment is complete and lesion(s) completely healed. Refer all patients to DIS staff; examine all partners within one month prior to onset. Discuss epidemiologic treatment with clinic physician or consultant; treat partners

exposed within 10 days preceding onset of symptoms. Strongly encourage HIV testing.

MOLLUSCUM CONTAGIOSUM

Although most common as a childhood infection, molluscum contagiosum often is sexually transmitted in young adults. Most lesions occur either on the genitals or perigenital areas, such as the pubic area, scrotum, or labia major. Large numbers of lesions or facial lesions in an adult may be a sign of immunodeficiency and HIV infection.

A. Diagnosis

Typical firm, small (1-5 mm), fleshy papules, often umbilicated; firm white "pearl" expressed on compression, usually followed by brisk bleeding; extensive or refractory lesions and those in atypical locations (e.g., face) may indicate HIV infection

B. Treatment

1. If few lesions are present, unroof with a sterile needle and express central core
2. Liquid nitrogen therapy is also effective; freeze each lesion, allow thawing, and refreeze; a single treatment usually is effective

C. Follow-up: PRN for recurrences

D. Sexual activity and management of partners: Advise abstinence until all lesions resolved and sites healed; routine STD evaluation of partners

PEDICULOSIS PUBIS

A. Diagnosis

Typical *Phthirus pubis* organisms or their nits, typically in pubic hair, sometimes involving thighs, trunk, eyelashes, or eyebrows

B. Treatment

1. Pyrethrin lotion (Rid, A-200, etc.), to be washed off after 10 minutes
2. Permethrin 1% cream rinse (Nix) according to package insert

Treat all skin between the chest and thighs, including axillae; simultaneously launder clothing, towels, and bed linens

C. Follow-up: PRN for recurrences

D. Sexual activity and management of partners: Advise abstinence until treatment has been completed. Routine STD evaluation.

SCABIES

A. Diagnosis

1. Clinical manifestations

Puritic papular or excoriated erythematous skin lesions, occasionally serpiginous; predominant sites classically include finger webs, wrists, elbows, axillary folds, trunk (especially at the belt line), buttocks and inguinal areas, penis, scrotum, and labia majora. The back, face and scalp are rarely involved. Crusted ("Norwegian") scabies is a severe manifestation that may be seen occasionally in immunodeficient patients, such as persons with AIDS.

2. Laboratory

Microscopic examination of scrapings of a fresh papule, obtained by excoriating the lesions and transferring the scraping to a slide, then applying a drop of oil (or KOH) and a coverslip; demonstration of the scabies mite, eggs or feces confirms the diagnosis. If typical clinical signs and symptoms are present, treatment usually is indicated in the absence of microscopic confirmation.

B. Treatment

1. Permethrin 5% cream: treat the entire skin surface below the neck; apply for 8 hours, then bathe; consider a second application after 4-5 days for particularly heavy infestations
2. Lindane 1% lotion: treat the entire skin surface below the neck; apply for 8 hours, then bathe; consider a second application after 4-5 days for particularly heavy infestations; contraindicated in pregnant women and young children
3. Ivermectin 200 µg/kg PO, single dose, repeated in 2 weeks; may be especially useful in immunodeficient persons (e.g., advance HIV infection) with “crusted” scabies or other severe manifestations
4. Launder clothes, towels, bed linens, etc.
5. Diphenhydramine, hydroxyzine, or other anti-pruritic therapy may help control itching; discuss with clinic physician or other consultant

C. Follow-up: PRN for recurrent or persistent symptoms

D. Sexual activity and management of partners: Advise abstinence until treatment is complete and symptoms resolve. Routine STD evaluation of partners; treat all regular sex partners and all household members for presumptive scabies.

ADVERSE REACTIONS TO MEDICATIONS

A. Immediate allergic reactions

1. Diagnosis
 - a. History: Any combination of urticaria (hives), weakness, lightheadedness, syncope, wheezing, dyspnea, dysphonia, or other acute manifestations beginning 5 to 30 minutes (occasionally up to 4 hours and rarely up to several days) after treatment; in general, speed of onset correlates with severity
 - b. Examination: Urticaria is the most consistent feature, but may be absent; urticaria alone is not dangerous, but may herald more serious manifestations; life-threatening features include laryngeal edema, bronchospasm, and hypotension

2. Management

General: Although the following sequences are rough guides, for practical purposes all of the items should be carried out simultaneously by various members of the clinic staff. The most senior person on the scene (usually the clinic physician) should assign specific tasks (e.g., recording of medication administration, vital signs, insertion of IV, maintenance of airway, etc.). If out-of-clinic emergency personnel are called (e.g., code team or paramedics), all care and responsibility should be relinquished to the emergency staff upon their arrival.

a. Urticaria alone

1. Place patient in supine position; monitor pulse, blood pressure, mental status, skin color (for pallor or cyanosis), and chest auscultation (for wheezing) every 1-2 minutes x 5, then every 5 minutes if stable
2. Aqueous epinephrine (1:1000) 0.3 ml SC
3. Diphenhydramine (Benadryl) 50 mg IM
4. Observe for a minimum of one hour before discharging from the clinic with a 24-hour supply of PO diphenhydramine; if urticaria does not respond to the above measures within 15 minutes, transport by ambulance or paramedic transport to the nearest emergency facility

b. Shock, hypotension, cyanosis, laryngeal edema, wheezing, dyspnea, etc.

1. Place patient in supine position; monitor pulse, blood pressure, mental status, skin color, and chest auscultation every 1-2 minutes
2. If patient is unconscious, assess need for cardiopulmonary resuscitation and initiate resuscitation if indicated; page code team or call 911
3. Establish and maintain airway; if unconscious, insert oral or nasal airway
4. Administer oxygen at 5 liters/min ("medium" flow)
5. Aqueous epinephrine (1:1000) 0.3 ml SC; massage injection site for 5 minutes; repeat after 10-15 minutes if hypotension or clinical signs of suboptimal perfusion persist

6. Diphenhydramine (Benadryl) 50 mg IM; massage injection site for 5 minutes
7. Transport by ambulance or paramedic transport to nearest emergency facility

B. Vasovagal (vasodepressor) syncope

Vasovagal reactions typically occur stressful, traumatic events, such as venipuncture, injection, or collection of a urethral swab specimen. Prodromal phase may be characterized by nausea, perspiration, hyperpnea, or weakness, culminating in syncope, but syncope can be the initial (and only) manifestation.

1. Remove offending stimulus
2. Place in supine position
3. Monitor pulse and blood pressure
4. Observe until stable

C. Procaine reaction

1. Diagnosis: Any combination of disorientation, agitation, "high" feeling, hallucinations, or combativeness following procaine penicillin G injection, without urticaria, hypotension, or other allergic manifestations; onset usually is within 1 to 5 minutes following injection; resolution begins within minutes and usually is complete within 20-30 minutes
2. Management
 - a. Examine for urticaria and other features of allergic reaction; check pulse and blood pressure
 - b. Place in supine position, using physical restraint if necessary to protect the patient from injury
 - c. Provide calm and continuous verbal reassurance; tell the patient that the episode will resolve promptly. Following recovery, many patients, even the most disoriented, have a complete and clear recollection of all events, so it is crucial to avoid disparaging remarks and outward actions or words that convey danger.
 - d. Do not discharge from clinic until at least 30 minutes after complete clinical resolution

APPENDIX I

ABBREVIATIONS

AIDS	Acquired immunodeficiency syndrome	KOH	Potassium hydroxide
<i>bid</i>	Twice daily	LE	Leukocyte esterase
BV	Bacterial vaginosis	LGV	Lymphogranuloma venereum
CFU	Colony forming units	MPC	Mucopurulent cervicitis
CSF	Cerebrospinal fluid	MSM	Men who have sex with men
DIS	Disease intervention specialist	NAAT	Nucleic acid amplification test
HAV	Hepatitis A virus	NGU	Nongonococcal urethritis
HBc	Hepatitis B core antigen	PCR	Polymerase chain reaction
HBs	Hepatitis B surface antigen	PEP	Post-exposure prophylaxis
HBV	Hepatitis B Virus	PID	Pelvic inflammatory disease
HCV	Hepatitis C virus	PO	By mouth (per os)
HIV	Human immunodeficiency virus	PRN	As needed (pro re nata)
HPV	Human papillomavirus	<i>qid</i>	Four times daily
HSV	Herpes simplex virus	RPR	Rapid plasma reagin test
ICGND	Intracellular Gram-negative diplococci	SC	Subcutaneous
IDU	Injection drug use(r)	STD	Sexually transmitted disease
IgG	Immunoglobulin G	<i>tid</i>	Three times daily
IgM	Immunoglobulin M	UTI	Urinary tract infection
IM	Intramuscular	VDRL	Venereal Disease Research Laboratory test
IUD	Intrauterine (contraceptive) device	VVC	Vulvovaginal candidiasis
IV	Intravenous		

APPENDIX II

STD DRUGS IN PREGNANT AND NURSING WOMEN¹

<u>Drug</u>	<u>Use in Pregnant Women</u>	<u>Use in Nursing Women</u>
Acyclovir	OK	OK
Amoxicillin/clavulanate	OK	OK
Azithromycin	OK	OK
Cefixime	OK	OK
Cefoxitin	OK	OK
Ceftriaxone	OK	OK
Ciprofloxacin	Contraindicated	Avoid ²
Clindamycin	OK	OK
Clotrimazole ³	OK	OK
Doxycycline	Contraindicated	Probably OK
Erythromycin	OK ⁴	OK
Famciclovir ⁵	Probably OK	Probably OK
Fluconazole	Probably OK	Probably OK
Imiquimod	Contraindicated	Probably OK
Levofloxacin	Contraindicated	Avoid
Lindane	Contraindicated	Probably OK
Liquid nitrogen	OK	OK
Metronidazole	OK	OK
Nitrofurantoin	OK	OK
Ofloxacin	Contraindicated	Avoid
Penicillin G (all forms)	OK	OK
Permethrin	OK	Probably OK
Podophyllin	Contraindicated	Probably OK
Podofilox	Contraindicated	Probably OK
Probenecid	OK	OK
Pyrethrin	OK	OK
Quinacrine	OK	OK
Spectinomycin	OK	OK
Sulfamethoxazole	Avoid after 36 weeks	Variable ⁶
Sulfisoxazole	Avoid after 36 weeks	Variable ⁶
Trichloroacetic acid	OK	OK
Trimethoprim	Avoid after 36 weeks	OK
Valacyclovir ⁵	Probably OK	Probably OK

¹ OK denotes safety in the mother, fetus, and/or nursing infant; efficacy is not addressed

² Avoid denotes that the drug should be avoided, or that nursing should be halted until 48 hours after the last dose

³ Other intravaginal imidazole drugs are classed as category C (potential adverse effects for the fetus), but no adverse effects have been noted following use in pregnant or nursing women

⁴ Erythromycin estolate is contraindicated during pregnancy due to the risk of hepatotoxicity

⁵ The safety of famciclovir and valacyclovir in pregnancy has not been established, but pharmacological and toxicological characteristics suggest low risk for adverse effects

⁶ The sulfonamides are safe for full-term infants, but should be avoided in women nursing infants who are ill, stressed, premature, or have hyperbilirubinemia

APPENDIX III

PROTOCOL FOR IMMUNIZATION AGAINST HEPATITIS B VIRUS INFECTION

- Indications: Immunization against HBV should be encouraged in individuals at increased risk for infection, including MSM, IDU, sex workers and adolescents. Routine pre-vaccination serologic testing is cost-effective only for persons at high risk for infection (e.g., MSM, IDU).
- Contraindications: Known hypersensitivity to yeast or any component of the vaccine. Pregnancy is not a contraindication to either initiating or continuing immunization.

Schedule for administration

The vaccine is given in three doses:

1st dose:	at elected date
2nd dose:	1 month later
3rd dose:	6 months after first dose

Short-term delays (i.e., weeks to months) in the administration of doses 2 and 3 do not require that the 3-dose schedule be re-started. Adequate protection apparently result if dose 2 is administered at least 2-3 weeks after dose 1, and if dose 3 is administered at least 2 months after dose 2. Accordingly, persons who may not comply with the standard course may be given doses 2 and 3 at widely varied intervals if and when they return for care.

Dosages vary by age:

Age 11-19 years:	5 μ g (0.5 ml)
Age \geq 20 years:	10 μ g (1.0 ml)

Injection: Shake the vial before withdrawing the vaccine. Use a 20-22 gauge needle at least 1" in length to ensure adequate intramuscular penetration. The vaccine should be injected into the deltoid muscle; gluteal injection is less immunogenic and should be avoided.

APPENDIX IV PROCEDURES FOR REPORTING STD

Washington Administrative Code (WAC) 248-100-076 specifies requirements for reporting STD, viral hepatitis, and other STDs.

Immediate telephone report requested*

- Syphilis, primary, secondary, neurosyphilis, or congenital 206-731-3954
- Acute viral hepatitis (A, B, or C) 206-296-4774
- Chronic hepatitis B in a pregnant woman 206-296-4774

For assistance in determining a syphilis diagnosis or stage, please call 206-731-3954. All positive syphilis serologies from any King County laboratory are automatically reported to Public Health for further investigation. Clinicians should expect to be contacted by the STD Control Program for clinical and epidemiologic information about the patient.

Report within 7 days of diagnosis

206-731-3954
(Except hepatitis)

- Chlamydial infection (laboratory confirmed)
- Gonorrhea (laboratory confirmed)
- Genital herpes, initial episode
- Pelvic inflammatory disease, acute
- Syphilis, late (other than neurosyphilis or congenital)
- Chancroid
- Lymphogranuloma venereum
- Granuloma inguinale
- Chronic viral hepatitis (hepatitis B, hepatitis C) 206-296-4774

Reporting in King County

To report an STD in King County call 206-731-3954 or complete a "Confidential STD Case Report". Case report forms also may be requested at the same number. Similarly, information about reporting viral hepatitis or communicable disease case report forms may be obtained at 206-296-4774.

When calling to report an STD, please provide the following information:

- Patient name
- Address
- Age or birth date
- Race
- Sex
- Reason for visit
- Date of diagnosis
- Treatment given
- Provider name, address, and phone number

All case report information is strictly confidential, and is used to inform prevention strategies and, in some cases, to facilitate patient counseling or partner notification. Patients are not contacted without prior approval by the health care provider.

* Washington State law stipulates reporting within 3-7 days, but King County requests immediate report by telephone

APPENDIX V SUMMARY OF COMMON NON-STD DERMATOLOGIC SYNDROMES

DISEASE	APPEARANCE	GENITAL DISTRIBUTION	ITCHING	TIME COURSE	DIAGNOSTIC TEST	TREATMENT	OTHER
LICHEN PLANUS	Annular, polygonal, flat-topped, violaceous lesion; mild scaling	Single or multiple, usually on penile shaft or glans	Mild to moderate	Days	Biopsy	Symptomatic topical steroids may be beneficial. Refer to dermatology	History of previous similar lesions; lesion on non-genital area
PSORIASIS	Well-demarcated papulo-squamous plaques with silver scale; may bleed if scale removed	Penile shaft, scrotum, perirectal	Moderate	Days to weeks, may wax and wane	None	Dependent upon severity of disease; refer to dermatologist	Nongenital lesions usually present (esp. scalp, elbows, knees, lower back); may have pitted fingernails
FIXED DRUG ERUPTION	Erythematous, well-demarcated "burn-like" area, may evolve from erythema to vesicles or blebs	Any part of genitalia, but glans and penile shaft most common in men; labia in women	Moderate	Days, sudden onset	None	None, or topical steroids in severe cases. Avoid drug usage	Tends to recur in same location with repeat exposure to offending drug; nongenital lesions also occur; onset usually 7-10 d after drug exposure; most common with sulfonamides, tetracyclines
SUPERFICIAL MYCOSES	Brawny red; well-margined, often scaling	Medial thighs, scrotum, in gluteal folds, usually symmetrical	Moderate to marked	Weeks	KOH prep, culture	Topical tinactin, miconazole, or oral griseofulvin	Often foot lesions also; worse in hot, humid weather or under occlusive clothing
REITER'S SYNDROME	Multiple inflamed, tender, elevated, moist papules	Lesions characteristically around the glans penis; circinate balanitis	Moderate	Days	None	Same as psoriasis	Associated with arthritis, conjunctivitis, and pustular or hyperkeratotic skin lesions on palms and soles
TINEA VERSICOLOR	Hypo- or hyperpigmented papules	Uncommon; usually on trunk, proximal limbs	Uncommon	Weeks	KOH prep	Topical ketoconazole cream (2%) daily for 14 days	Caused by the yeast <i>Malassezia furfur</i> . Single dose oral azole and topical selenium sulfide lotion are alternative treatments
TRAUMA	Superficial abrasion	Areas of friction or trauma	Mild	Days	None	None	Prevent bacterial superinfection

APPENDIX VI RESOURCES

The following resources will be useful to persons with or at risk for STDs, to health care providers, or both. Telephone numbers and internet addresses were confirmed March 10, 2003.

TELEPHONE

Public Health – Seattle & King County STD/HIV Hotline	206-205-STDS (-7837)
En español	Same
TTD for hearing impaired	206-296-4843
CDC National STD/AIDS Hotline	800-227-8922
En español	800-344-7432
TTD for hearing impaired	800-243-7899

INTERNET

CDC, Division of STD Prevention <http://www.cdc.gov/std>
Comprehensive information for health professionals, including CDC's 2002 STD Treatment Guidelines, epidemiologic reports, and prevention recommendations; and accurate information for STD patients and persons at risk.

Public Health STD Program <http://www.metrokc.gov/health/apu/std/index.htm>
Comprehensive information for persons with STD and at risk, with links to numerous additional resources and to the online edition of these guidelines.

Public Health Family Planning Services <http://www.metrokc.gov/health/famplan>
Reproductive health information for citizens and providers, including the Family Planning Clinical Practice Guidelines.

American Social Health Association <http://www.ashastd.org/stdfaqs/index.html>
Detailed information for persons with STDs or at risk, with access to accurate pamphlets and other written materials; information for health professionals and other interested persons on STD prevention advocacy.

PRINTED MATERIALS

Holmes KK, et al (ed). *Sexually Transmitted Diseases*, 3rd edition. New York, McGraw-Hill, 1999 (1454 pages). *The preeminent textbook on STD.*

Handsfield HH. *Color Atlas and Synopsis of Sexually Transmitted Diseases*, 2nd edition. New York, McGraw-Hill, 2001 (216 pages). *A succinct, heavily illustrated, outline-format practical guide to clinical management and prevention.*

Centers for Disease Control and Prevention. Sexually transmitted diseases treatment guidelines 2002. *Morbidity and Mortality Weekly Report* 2002;51(No. RR-6). *CDC's STD treatment recommendations, including guidance on diagnosis and prevention; also available online (<http://www.cdc.gov/std/treatment>).*