

Chapter 1

THE CLINICAL APPROACH TO THE PATIENT WITH POSSIBLE STD

Patients with sexually transmitted diseases (STDs) may attend public health clinics specializing in the care of these disorders, but most are seen by primary care providers, gynecologists, urologists, pediatricians, and in hospital emergency rooms. Many patients with STDs also make appointments for other reasons, a Pap smear, for example, and thus it is important to take a sexual history from all sexually active patients to determine their risk of STD. The diagnosis and treatment of STDs has become increasingly complex as a greater number of pathogens and syndromes have been described. Patients at highest risk of STDs include: 1) sexually active adolescents; 2) men or women with multiple sexual partners, a sexual partner who has other partners, or a new sexual partner in the last two months; 3) men or women with genital symptoms or signs of the type outlined in the ROUTINE STD HISTORY section below; 4) men or women with a sexual partner who has an STD; 5) men and women not using barrier contraceptive methods.

A number of factors make it difficult for the clinician to identify and treat STDs. First, many patients with an STD have few or no symptoms, and their infections will remain undetected if routine screening is not done. Second, many patients have simultaneous infections involving more than one site (e.g., cervix plus urethra, cervix plus vagina, or urethra plus rectum), and the symptoms resulting from these infections may overlap, such that they cannot be clearly distinguished on the basis of symptoms alone. Third, patients may be infected with more than one pathogen (e.g., simultaneous urethral infection with chlamydia and gonorrhea). Fourth, laboratory facilities able to readily identify all sexually transmitted pathogens are not always available. Hence, many patients present with symptoms that cannot be definitely attributed to a specific pathogen, while others with asymptomatic infections are not diagnosed because the appropriate laboratory test is not available. Finally, in addition to diagnosis and treatment of individual patients, the clinician has the responsibility for STD case detection by screening high-risk, asymptomatic individuals and the sexual contacts of infected patients, as well as prevention of further disease by early treatment and education of these persons.

For these reasons, it is advisable that clinicians adopt a consistent approach to patients with any risk of STD. These patients should undergo a standardized examination that includes:

1. specific relevant history,
2. physical examination, and
3. appropriate laboratory tests.

THE ROUTINE STD HISTORY

When a history related to STD concerns or risk is taken, it is critical that the patient feel at ease. A counseling approach that emphasizes respect, compassion, and a nonjudgmental attitude towards all patients is essential. The use of open-ended questions (for example, "Tell me about any new sex partners you've had since your last visit" and "what's your experience with using condoms been like?") can be very effective. Providers should also use understandable language ("have you ever had a sore or scab on your penis?"), and language that normalizes potentially uncomfortable topics ("some of my patients have difficulty using a condom with every sex act. Is this an issue for you?"). One approach to eliciting information about five key areas of interest is summarized using the five "Ps:" Partners, Pregnancy Prevention, Protection, Practices, and Past STD's. The 2006 CDC STD Treatment Guidelines list specific questions within these topic areas. Below, we provide a related series of questions that addresses these areas as well as others that are important considerations when managing patients (for example, history of allergy to medication).

Suggested History - Women

1. What brings you in today?
2. Do you have specific symptoms and, if so, which is your main symptom?
3. Do you have an increase in vaginal discharge or odor and, if so, for how long?
4. Do you have vulvar itching or irritation and, if so, for how long?
5. Do you have burning with urination, urgency, or frequency and, if so, for how long?
6. Have you noted any genital lesions or sores and, if so, how long have they been present?
7. Have you had any recent lower abdominal pain or rectal symptoms and, if so, for how long?
8. Have you noted any skin rash involving areas other than the genitalia?
9. Have you had sex with more than one partner in the last 2 months and, if so, how many? Have you had sex with any new partners in the last 2 months? How many partners have you had in the last year? As far as you know, do any of your sexual partners have signs of infection? Are any of your partners infected with HIV?
10. Do you have sex with men, women, or both?
11. When was your last sexual exposure?
12. In the last 2 months, have you given or received oral sex? Had anal sex? Vaginal sex?
13. When was your last menstrual period? Was it normal?
14. Are you or your partner trying to get pregnant? If not, what are you doing to prevent pregnancy? If you use condoms, do you use them with all your partners? With which partners do you use condoms, and how often do you forget to use them? Do you use condoms when on alcohol or drugs?
15. Have you taken any antibiotics in the last month?
16. Have you had allergic reactions to any medications?
17. Have you had any sexually transmitted diseases diagnosed previously and, if so, when and which one(s)? Have you had a diagnosis of chlamydial infection in the last year? In the last 6 months? Have you had a test for HIV? If so, what was the date and result of your last HIV test? Are you concerned that you might have been exposed to a partner with HIV or at risk for HIV?
18. Do you regularly use alcohol or drugs, IV or other? If you use IV drugs, do you share needles?
19. To your knowledge, have any of your male partners been bisexual?
20. Do you douche? If so, how often? What do you usually use?

Suggested History - Men

1. What brings you in today?
2. Do you have specific symptoms and, if so, which is your main symptom?
3. Do you have a urethral discharge and, if so, for how long? How would you describe it, for example, clear and thin; white and thick?
4. Do you have any burning when you pass urine and, if so, for how long have you noticed it?
5. Have you noticed any skin lesions on your penis, scrotum, or groin and, if so, for how long?
6. Have you noted any skin rash involving areas other than the genitalia?
7. Have you had any rectal symptoms, diarrhea, or constipation?
8. Have you had sex with more than one partner in the last 2 months and, if so, how many? Have you had sex with any new partners in the last 2 months? How many partners have you had in the last year? As far as you know, do any of your sexual partners have signs of infection? Are any of your partners infected with HIV?
9. Do you have sex with men, women, or both?
10. When was your last sexual exposure?
11. In the last 2 months have you had vaginal sex? Given or received oral sex? Given or received anal sex?
12. Have you taken any antibiotics in the last month?
13. Have you had allergic reactions to any medications?
14. Have you had any sexually transmitted disease diagnosed previously and, if so, which one(s) and when? Have you had an HIV test? If so, what was the date and result of your last HIV test? Are you concerned that you may have been exposed to a partner with HIV or at risk for HIV?
15. Do you regularly use alcohol or drugs, IV or other? If you use IV drugs, do you share needles?
16. Is your partner trying to get pregnant? If not, what are you doing to prevent pregnancy? If you use condoms, do you use them with all your partners? With which partners do you use condoms, and how often do you forget to use them? Do you use condoms when on alcohol or drugs?

THE PHYSICAL EXAMINATION

As with the history, a routine approach toward examining patients with STDs should be adopted.

Physical exam - women

The minimal routine physical examination for women with a suspected STD includes the following:

1. Inspection of the skin of the lower abdomen, inguinal areas, thighs, hands, palms, and forearms.
2. Inspection of the pubic hair for lice and nits.
3. Inspection and palpation of the external genitalia and inspection of the perineum and anus.
4. Speculum examination of the vagina and cervix.
5. Bimanual pelvic examination.

6. Palpation for inguinal and femoral adenopathy.
7. For women reporting rectal sex, inspection of the anus. For complaints of rectal symptoms, anoscopic exam.

Physical exam - men

For men, the minimal routine screening examination includes:

1. Inspection of the skin of the genitals, inguinal areas, thighs, lower abdomen, hands, palms and forearms.
2. Inspection of the pubic hair for lice and nits.
3. Inspection of the penis, including the meatus, with retraction of the foreskin and milking of the urethra.
4. Palpation of the scrotal contents.
5. Palpation for inguinal and femoral lymphadenopathy.
6. For men who have sex with men (MSM), inspection of the mouth, throat, perineum, and anus. Palpation for cervical, supraclavicular, and axillary lymphadenopathy. For MSM complaining of rectal symptoms, anoscopic exam. For men giving oral sex, exam of the mouth.

After completion of the routine screening history and physical examination, it should be possible to tentatively classify patients into one of several clinical syndromes. Some patients will be asymptomatic and have no signs on physical exam and should receive no therapy until their laboratory test results are received. Identifying a tentative clinical syndrome helps narrow the field of possible pathogens that could cause the infection. Table 1-1 summarizes the most common pathogens associated with different syndromes. Algorithmic approaches to specific etiologic diagnoses for each of the syndromes are presented in the relevant chapters. These recommendations should be followed while waiting for laboratory confirmation of the diagnosis, and they may suggest that additional historical data or laboratory tests are necessary.

TABLE 1-1**SELECTED SYNDROMES AND COMPLICATIONS WITH CORRESPONDING SEXUALLY TRANSMITTED ETIOLOGICAL AGENTS^a**

SYNDROME	AGENT
MEN	
Urethritis	<i>N. gonorrhoeae</i> , <i>C. trachomatis</i> , herpes simplex virus (HSV), <i>T. vaginalis</i> , <i>M. genitalium</i>
Epididymitis	<i>C. trachomatis</i> , <i>N. gonorrhoeae</i>
Intestinal infections:	
Proctitis	<i>N. gonorrhoeae</i> , HSV, <i>C. trachomatis</i> , <i>T. pallidum</i>
Proctocolitis	<i>Campylobacter</i> sp., <i>Shigella</i> sp., <i>E. histolytica</i> , <i>Salmonella</i> sp.
Enteritis	<i>G. lamblia</i> , cryptosporidiosis
WOMEN	
Lower genitourinary tract infections:	
Vulvitis	<i>C. albicans</i> , HSV
Vaginitis	<i>Trichomonas vaginalis</i> , <i>C. albicans</i> , and anaerobes associated with bacterial vaginosis
Cervicitis	<i>N. gonorrhoeae</i> , <i>C. trachomatis</i> , HSV (ectocervicitis), <i>M. genitalium</i>
Urethritis	<i>N. gonorrhoeae</i> , <i>C. trachomatis</i> , HSV
Pelvic inflammatory disease	<i>N. gonorrhoeae</i> , <i>C. trachomatis</i> , aerobes (<i>E. coli</i>) and anaerobes (e.g., <i>Peptostreptococci</i>)
Infertility:	
Postsalpingitis, postobstetric, postabortion	<i>N. gonorrhoeae</i> , <i>C. trachomatis</i>
Pregnancy morbidity:	
Chorioamnionitis, amniotic fluid infection, prematurity, premature rupture of membranes, postpartum endometritis, ectopic pregnancy	Several STD agents have been implicated in one or more of these conditions, including bacterial vaginosis
MEN AND WOMEN	
Genital ulceration	HSV, <i>T. pallidum</i> , <i>H. ducreyi</i> , <i>Calymmatobacterium granulomatis</i> , <i>C. trachomatis</i> (LGV strains)
Nonulcerative genital skin lesions	<i>T. pallidum</i> , <i>C. albicans</i> , HSV
Genital warts	Human papillomavirus (HPV) types 6 and 11
Molluscum contagiosum	Pox virus
Ectoparasite infestations	<i>Sarcoptes scabiei</i> , <i>Phthirus pubis</i>
Neoplasia:	
Cervical intraepithelial neoplasia, carcinoma	HPV types 16 and 18, and other oncogenic HPV types
Anal carcinoma in MSM	HPV types 16 and 18, and other oncogenic HPV types
Hepatocellular carcinoma	Hepatitis B
Kaposi's sarcoma	HIV, HHV-8
Hepatitis	Hepatitis A, B and C viruses, cytomegalovirus, <i>T. pallidum</i>
Acquired immune deficiency syndrome (AIDS)	HIV-1, HIV-2
Acute arthritis with urogenital or intestinal infection	<i>N. gonorrhoeae</i> , <i>C. trachomatis</i> , <i>Shigella</i> sp., <i>Campylobacter</i> sp.
NEONATES AND INFANTS	
TORCHES syndrome ^b	Cytomegalovirus, HSV, <i>T. pallidum</i>
Conjunctivitis	<i>C. trachomatis</i> , <i>N. gonorrhoeae</i>
Pneumonia	<i>C. trachomatis</i>
Sepsis, meningitis	Group B streptococcus
Cognitive impairment, deafness	Cytomegalovirus, HSV, <i>T. pallidum</i>

^aFor each of the above syndromes, some cases cannot yet be ascribed to any cause and must be considered idiopathic.

^bTORCHES is an acronym for toxoplasmosis, rubella, cytomegalovirus, herpes, and syphilis. The syndrome consists of various combinations of encephalitis, hepatitis, dermatitis, and disseminated intravascular coagulation.

SCREENING LABORATORY TESTS

Routine screening laboratory data should be obtained from all patients at risk of an STD. See Appendix A for detailed laboratory procedures. The following list of procedures is recommended:

For women:

1. pH, KOH preparation, and saline wet prep of vaginal secretions
2. Culture, or nucleic acid amplification test (NAAT) for *Neisseria gonorrhoeae*:
 - endocervix (or urethra, if cervix is absent)
 - urine or vaginal swab (if NAAT is used)
 - pharynx if engaged in oral sex
3. Pap smear, according to most recent guidelines, particularly if most recent was atypical or abnormal
4. Test for *Chlamydia trachomatis*, ideally with NAATs
 - endocervix (or urethra if cervix absent); urine or vaginal swab if NAAT used
6. Syphilis serology
7. HIV screening test if not performed previously or periodically as indicated (CDC Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant women in Health Care Settings).

STD Screening tests-WOMEN
<input type="checkbox"/> pH/KOH/saline wet prep-vaginal sidewall
<input type="checkbox"/> Endocervical Gram-stain smear
<input type="checkbox"/> Cultures for <i>N. gonorrhoeae</i> <ul style="list-style-type: none"> • endocervix/urethra • rectum (if report of anal sex) • pharynx (if report of fellatio)
<input type="checkbox"/> Pap smear
<input type="checkbox"/> Tests for <i>C. trachomatis</i> <ul style="list-style-type: none"> • culture of endocervical swab • NAAT for endocervical swab, urine, or vaginal swab
<input type="checkbox"/> Syphilis serology
<input type="checkbox"/> HIV screening test (w/ informed consent)

For heterosexual men:

1. Urethral Gram-stain smear is recommended
 - if the patient has symptoms of urethritis or
 - if urethral discharge can be expressed or is spontaneously present or
 - if the patient is a contact of a woman with PID, cervicitis, or known positive culture for gonorrhea or chlamydia.

Alternatively, a urine test for pyuria (either microscopy for PMNs or an LE test) can be performed if the man refuses a urethral swab.
2. Urethral culture for *Neisseria gonorrhoeae* and test for *Chlamydia trachomatis* (preferably NAAT)
3. Syphilis serology
4. HIV screening test if not performed previously or periodically as indicated (CDC Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant women in Health Care Settings).

STD Screening tests-Heterosexual MEN
<input type="checkbox"/> Urethral Gram-stain smear or test for pyuria
<input type="checkbox"/> Tests for <i>N. gonorrhoeae</i> <ul style="list-style-type: none"> • urethral culture or urine NAAT
<input type="checkbox"/> Tests for <i>C. trachomatis</i> <ul style="list-style-type: none"> • urethral culture or urine NAAT
<input type="checkbox"/> Syphilis serology
<input type="checkbox"/> HIV screening test (w/ informed consent)

For MSM:

1. Urethral Gram stain is recommended
 - if the patient has symptoms of urethritis or
 - if urethral discharge can be expressed or is spontaneously present or
 - if the patient is a contact of a woman with PID, cervicitis, or known positive culture for gonorrhea or chlamydia, or contact to a man with *C. trachomatis* or *N. gonorrhoeae*.
Alternatively, a urine test for pyuria (either microscopy for PMNs or an LE test) can be performed if the man refuses a urethral swab.
2. Urethral and pharyngeal cultures for *N. gonorrhoeae* and a urethral culture or urine NAAT for *C. trachomatis*, depending on sexual practices.
3. Rectal Gram stain (if practices receptive anal intercourse)
 - if rectal discharge is present or
 - if rectal symptoms are reported
4. Rectal culture for *N. gonorrhoeae* and *C. trachomatis* (if has practiced receptive rectal intercourse in the last year)
 - NAAT are not FDA-approved for use on rectal and pharyngeal samples; discuss with local laboratory whether they are allowable in your setting.
5. Syphilis serology
6. HIV screening to previously untested or known seronegative patients, if HIV test has not been performed in the past 3 to 6 months.
7. Offer screening test for Hepatitis B surface antigen and antibody to patients with no known prior history of Hepatitis B or vaccination.
8. Offer hepatitis A and B vaccination to antibody-negative men.

STD Screening tests - MSM
<input type="checkbox"/> Urethral Gram-stain smear or test for pyuria
<input type="checkbox"/> Test exposed sites for <i>N. gonorrhoeae</i> <ul style="list-style-type: none">• rectal / urethral• pharyngeal
<input type="checkbox"/> Test exposed sites for <i>C. trachomatis</i> (culture or NAAT) <ul style="list-style-type: none">• rectal / urethral
<input type="checkbox"/> Rectal Gram-stain smear (if anal sex reported in past year)
<input type="checkbox"/> Syphilis serology
<input type="checkbox"/> HIV screening test (w/ informed consent)
<input type="checkbox"/> Hepatitis B screening test

Other laboratory tests may be needed to evaluate specific clinical problems. If available, *C. trachomatis* cultures or NAAT should be used for routine screening as outlined above.

In summary, each time a patient comes to you with a possible STD, write up a clear clinical assessment based on 1) the history you obtain, 2) a physical examination with a discussion of any abnormalities, and 3) a management plan, including all laboratory tests requested and therapies initiated. The management plan should clearly state which drugs and exact doses have been prescribed, and when the patient should plan to return for follow-up. A specific management plan for the patient's sexual partners should also be listed. Confirmed cases should be reported to the state/ local health department (To locate health department STD programs, visit <http://www.ncsddc.org/programsites.htm>).