



The Clinical Approach to the STD Patient

Learning Objectives:

Upon completion of this module, the learner will be able to:

1. List a minimum of six epidemiological and medical goals of an STD intervention.
2. Name a minimum of five objectives a sexual history should accomplish with all STD patients.
3. Name a minimum of seven risk indicators for STD.
4. Demonstrate an accurate history of a patient who is at risk for STD/HIV with 90% completeness.
5. List a minimum of four key elements to patient education.

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The Clinical Approach to the Evaluation for STD

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I. Rationale and General Clinical Approach

A. Epidemiological and medical goals of the STD intervention:

1. Identify specific diagnosis and treatment of active disease.
2. Detect asymptomatic disease, prevent disease sequelae, transmission in the community, and vertical disease transmission.
3. Support protective sexual health behavior. Promote behavioral change in “at risk” individuals and groups.
4. Protect public health, current and future sex partners.
5. Promote awareness of the linkage of sexual risk-taking, substance abuse and STD/HIV.
6. Promote reproductive and sexual health.

B. Taking a sexual history:

1. General considerations:
 - a) Introduce yourself and establish your role as clinician.
 - b) Take the history while the patient is fully clothed.
 - c) Interview patient alone or with an unrelated translator.
 - d) Focus on quality of patient-provider interaction.
 - e) Assure confidential nature of patient-provider information.
 - f) State the medical necessity of an accurate, complete, specific sexual behavioral history (testing, counseling, therapies, etc.).
 - g) Make no assumptions regarding gender or gender role.
 - h) Make no assumptions regarding gender of partners or specific sexual behaviors; always use gender-neutral terminology.
 - i) Be non-judgmental and objective to enhance patient behavioral outcomes.
 - j) Use active listening, open-ended questions, and clarify/verify your own and patient understanding.
 - k) Actively listen for informational content, emotional content, comprehension, omitted information, etc.
 - l) Begin with least sensitive questions (e.g.; general health history), then progress to sexual behaviors, substance use, etc.
 - m) Discuss the specific sexual and substance use behavior; do not use labels (“straight,” “bisexual,” “gay,” “queer,” “shooter,” etc.).

- n) Clinician should be comfortable with the use of a wide range of sexual terms, but should not assume the patient knows the meaning of sexual terms (e.g.; fellatio, anal sex).
2. A sexual history should
 - a) Reinforce confidentiality.
 - b) Establish patient-provider rapport.
 - c) Ensure accurate definition of the problem.
 - d) Elicit accurate clinical and behavioral information.
 - e) Identify specific STD/HIV risk behaviors.
 - f) Lead to successful medical and epidemiological management.
 - g) Define sexual activity using a range of specific anatomic and behavioral terms.
 3. Diagnostic or epidemiologic STD risk indicators:
 - a) Genital symptoms, especially vaginal, urethral or anal discharge, skin lesions, ulcers, warts
 - b) A sex partner with a known STD diagnosis
 - c) A sex partner with genital symptoms
 - d) Diagnosis with a concurrent STD
 4. STD behavioral and partner risk indicators (varies by STD):
 - a) Adolescence
 - b) Residence in high prevalence area or sexual networks with high prevalence of STDs
 - c) Residence in a high poverty area; certain racial/ethnic groups; poor access to health care
 - d) A history of prior STD diagnosis and treatment (past 1-2 years)
 - e) New partner in the last two or three months
 - f) More than one sex partner (past 1-4 months, past year)
 - g) Sex partner with other sex partners (past 1-4 months, past year)
 - h) Inconsistent use of condoms with casual or multiple partners
 - i) Commercial sex or exchange of sex for drugs
 - j) A recent or past history of sexual assault, family violence, or intimate partner abuse
 - k) Current use or a history of injection drug use or substance abuse by patient or sex partners
 - l) Men who have sex with men (MSM) with high risk behaviors
 - m) HIV-infected patients with high risk behaviors

II. Chief Complaint and History of Present Illness

A. Reason for visit (elicit with an open-ended question):

1. Patient's desire for routine STD/HIV screening (new relationship, unprotected intercourse, sexual assault, etc.)
2. Current, recent or recurrent symptoms
3. Treatment for recurrent genital herpes or warts
4. Sexual partner with symptoms or recent STD diagnosis
5. A positive test result requiring treatment or prompting questions
6. Routine pelvic, Pap test, and/or birth control
7. Use of or need for emergency contraception
8. Immunization and/or testing for Hepatitis A or B, or immunization for HPV
9. Other

B. Characterize and document all symptoms and signs:

1. Oral/pharyngeal symptoms, including oral lesions, cold sores
2. Lymph node swelling or tenderness
3. Urethral discharge (male)
4. Vaginal discharge or odor (female)
5. Dysuria, frequency, urgency
6. Itching or irritation (vulvar, anal, penile, pubic area, perineum)
7. Abnormal vaginal bleeding (spotting between periods, abnormal menses)
8. Genital sores/ulcers/lesions, bumps/warts, masses, or rashes (painful, recurrent); document size and location of all lesions
9. Non-genital skin rashes
10. Pelvic pain/pain with intercourse (dyspareunia)
11. Testicular pain, swelling, masses
12. Rectal/perianal symptoms (pain, discharge, bleeding, itching, sores, masses)
13. Abdominal complaints (nausea, vomiting, constipation, diarrhea)
14. Systemic or constitutional symptoms
15. Acute arthritic symptoms
16. Neurologic symptoms

C. History of symptoms and signs:

1. Anatomic location, dimensions, distribution
2. Onset, duration, change since onset
3. Recurrence, history of similar symptoms
4. Alleviating, exacerbating factors
5. Relation of symptoms to menses, sexual intercourse

III. Past Medical and STD History

A. Past medical history:

1. General health and pre-existing medical conditions
2. Past history of underlying genitourinary pathology, urologic or gynecologic procedures
3. History of immunizations and testing for Hepatitis A, Hepatitis B, Hepatitis C, HPV

B. Current medications and medications taken in the past month (including topical preparations)

C. Allergies or other side effects to medications in the past:

1. Name of medication
2. Record the type of reaction, (e.g.; rash, difficulty breathing)
3. Record side effects (e.g.; nausea)

D. Prior History of STDs and genitourinary infections (note number of episodes, when last treated):

1. Gonorrhea
2. Chlamydia
3. Nongonococcal urethritis (NGU), urethritis, epididymitis (males)
4. Cervicitis or mucopurulent cervicitis (MPC) (females)
5. Pelvic inflammatory disease (PID) (females)
6. Syphilis: note stage or symptoms, treatment, year, city or state, last VDRL titer, if known
7. Genital herpes: note recurrence rate per year
8. Genital or anal warts
9. Trichomoniasis
10. Bacterial vaginosis (females): note frequency, last episode
11. Yeast: note frequency, treatment
12. Urinary tract infections
13. Hepatitis
14. HIV
15. Other STDs: lymphogranuloma venereum (LGV), other
16. Genital dermatoses

D. History of STD testing:

1. Frequency of chlamydia and gonorrhea testing
2. Last syphilis test; frequency of testing
3. History of HSV testing, including HSV-2 type-specific serology test
4. HIV testing history; frequency of testing

IV. Gynecologic History

A. Last menstrual cycle (LMP):

1. First day of last menstrual period
2. LMP normal in flow and duration
3. Currently pregnant

B. Parity (pregnancy history):

1. Gravida = number of times pregnant
2. Para = deliveries
3. Ab-sp, SAB = spontaneous abortions or miscarriages
4. Ab-in, TAB = induced or therapeutic abortions or termination or pregnancy
5. Tubal (ectopic) pregnancies
6. Cesarean sections
7. Currently breast feeding (therapy ramifications, etc.)

C. Hygiene practices:

1. Douching – how often and what is used. Other genital cleansing – internally, perfumes, soaps; opportunity to educate and advise against douching.
2. Shaving/waxing practices; opportunity to educate about potential skin damage, increased susceptibility to infection, and autoinoculation spread of HPV infection (applies to male patients as well)

D. Current contraception:

1. Pregnancy intention and plans
2. Method used, if pregnancy not desired
3. Satisfaction with current method; side effects; adherence and appropriate use
4. Confidential access to family planning/reproductive care providers; need for referral
5. Need for advance prescription for emergency contraception

E. Pap smear:

1. Last Pap – date, results
2. History of abnormal Pap, year, treatment, follow-up
3. HPV test result (if done)

V. Sexual History

A. General considerations:

1. Style and content vary by patient gender, age, sexual orientation, presenting symptoms and signs, and possibly culture.
2. Emphasize confidentiality, and provide a private setting. Clinic setting and level of privacy may impact patient comfort, and the details elicited.
3. Specifics of the sexual history and follow-up questions generally depend on the patient's response to open-ended screening questions.
4. Responses to questions may warrant risk-reduction counseling.
5. The time frame for eliciting specific risk behaviors depends on presenting symptoms and the disease of interest. Many clinics use a time frame between 1 and 4 months. A shorter time frame increases the likelihood of accuracy.
6. A focused sexual history should cover the five "Ps": Partners, Practices, Pregnancy Prevention, Protection from STDs, and Past STDs. See Appendix A for examples of focused sexual history-taking tools.
7. To normalize or explain, use opening questions such as: "I ask all patients questions about their risk for STDs and HIV," or "In order to provide the best care for you today, and to understand your risk for certain infections, it is necessary for us to talk about your sexual behavior."
8. Give assurance (and limitations) of confidentiality.
9. For adolescents, you may need to establish their level of sexual activity: "Have you begun having any kind of sex?"

B. Sex partners:

1. Define "sex partners" as anyone the patient has had intimate sexual contact at oral, genital and anal sites
2. Sex with men, women or both
3. Number of days since last sexual exposure
4. Number of days since last unprotected sexual exposure (without condom)
5. Was there unprotected sex with a steady sex partner or a casual/new sex partner (may need to define)
6. Number of sex partners in the past 1-4 months
7. Number of new sex partners in the past 1-4 months
8. Total number of sex partners in the past 12 months
9. Partner with other sex partners

10. Partner who has HIV infection
11. Partners who inject drugs
12. Partner with known diagnosis of STD or current STD symptoms
13. Commercial sex, exchange of money or drugs for sex
14. Venues for meeting partners – Internet, commercial sex sites, parks
15. Anonymous partners

C. Sites of recent sexual exposure (past 1-4 months); explain why you are asking these sensitive questions:

1. Vaginal intercourse (penis to vagina)
2. Anal intercourse (penis to anus), receptive (“bottom”) and/or insertive (“top”)
3. Oral sex (mouth to penis, vagina, or anus)
4. Other sexual practices may be important in certain situations: use of sex toys or devices, masturbation, “fisting”, exposure to blood during sex

D. Condom use for sexual practices:

1. Pattern of use (never, sometimes, always)
2. Use with different sites of exposure (vaginal, rectal, oral)
3. Condom use with last sexual intercourse
4. Use with steady and non-steady partners, if applicable
5. Circumstances of non-use (e.g.; substance use)
6. Condom breakage and correct use
7. Opportunity to educate and discuss risk reduction
8. Opportunity to discuss contraception

E. Disclosure of STD/HIV status to partners (if positive):

1. Disclosure of HIV status
2. Disclosure of HSV-2/genital herpes status

VI. HIV Risk Assessment:

- A. Date and result of most recent HIV test..
- B. Patient history of injection drug use, shared needles.
- C. Patient history of crack cocaine/methamphetamine (“speed”) use.
- D. History of exchanging drugs/money for sex.
- E. History of transfusion or hemophilia: note dates.
- F. History of occupational contact to bodily fluids.
- G. Sexual contact with men who have sex with other men.
- H. Sexual contact with known HIV-positive person.
- I. Sexual contact with injection drug user.
- J. Sexual contact with crack cocaine/methamphetamine (“speed”) user.

VII. Social History

- A. History of or current sexual abuse, domestic violence
- B. Drug use, heroin, cocaine/crack, methamphetamine (“speed”), alcohol; IV, IM, or subcutaneous injection, needle-sharing
- C. Sex under the influence of alcohol or drugs
- D. Homelessness
- E. Commercial sex work, exchange of money or drugs for sex
- F. Piercing and/or tattooing
- G. Incarceration history; sex/substance abuse while incarcerated
- H. Recent or past history of travel, sexual exposure while traveling, partner travel history

VIII. Clinical Management

- A. Screening tests as indicated by age and other risk indicators; because of the high prevalence of asymptomatic carriage and transmission of STDs/HIV/Hepatitis, the decision about screening testing should not be dependent on the presence of symptoms.
 - 1. Sexually active young women age 25 and younger should be screened for chlamydia (and generally gonorrhea) on an annual basis.
 - 2. Sexually active women should receive periodic cervical cytology testing starting at age 21, with follow-up as indicated. In certain situations, HPV testing may be warranted in conjunction with cervical cytologic testing.
 - 3. All pregnant women should be screened for HIV, syphilis, hepatitis B surface antigen, and chlamydia as early in pregnancy as possible. Pregnant women should be screened for gonorrhea depending on age and risk factors. Screening for hepatitis C should be based on risk factors.
 - 4. Sexually active MSM should be screened at least annually for HIV, syphilis, urethral gonorrhea and chlamydia, rectal gonorrhea and chlamydia (if exposed), and pharyngeal gonorrhea (if exposed). More frequent screening (every 3-6 months) should be based on specific risk factors.
 - 5. HIV-infected patients should be screened for chlamydia, gonorrhea, and syphilis at least annually or more frequently (every 3-6 months) depending on risk factors. Women infected with HIV should be screened for trichomonas.
 - 6. Gonorrhea, chlamydia, syphilis, and HIV screening for other risk groups (e.g.; heterosexual males) depends on specific risk factors.

7. Screening for HSV-2 using type-specific serology tests may be considered for certain high-risk patients (e.g.; MSM, HIV-infected, partners of those infected with genital herpes).
 8. HIV screening should be available for all sexually active patients aged 13-64, particularly those who have never received an HIV test. Patients seeking evaluation and treatment for STDs should be screened for HIV infection. Persons with interim or on-going risk for HIV infection should be screened at least annually, or as indicated by risk.
- B. Diagnostic tests as indicated by symptoms and signs
 - C. Presumptive treatment based on known contact to disease, symptoms, signs, and stat lab findings
 - D. Specific treatment based on lab findings
 - E. Partner management, treatment and counseling based on specific STD diagnosis
 - F. Referral of HIV-positive patients to Partner Counseling and Referral Services (PCRS), as indicated, for assistance in notifying sex and needle-sharing partners about possible exposure to HIV
 - G. Possible need for follow-up appointment.

IX. Patient Education

- A. Asymptomatic nature of many STDs and the need for screening
- B. Relationship of STDs to HIV transmission
- C. Need for partner treatment, as indicated
- D. Partner notification, disclosure, and communication issues
- E. Re-testing or other follow-up as indicated
- F. Specify STDs that were included in the clinical assessment and lab tests
- G. Contraception, as indicated
- H. Drug or alcohol counseling, as indicated
- I. Advise to avoid douching, as indicated
- J. Identify support, referrals for social services, domestic violence, substance abuse, as indicated.
- K. Referral for other clinical services, as indicated.
- L. In addition to patient education, client-centered counseling to assess risk, increase risk perception if appropriate and negotiate risk-reduction plan as indicated by assessment. See curriculum module titled "Behavioral Counseling for STD/HIV Risk Reduction".

X. References

1. Centers for Disease Control and Prevention. Sexually transmitted diseases treatment guidelines 2006. MMWR Morb Mortal Wkly Rep. 2006; 55 (RR-11): 42-49. Available at: <http://www.cdc.gov/std/treatment/default.htm>.
2. Centers for Disease Control and Prevention. Incorporating HIV prevention into the medical care of persons living with HIV. Recommendations of the CDC, HRSA, NIH, and the HIV Medicine Association of IDSA. MMWR Morb Mort Wkly Rep. 2003; 52 (RR-12).
3. Centers for Disease Control and Prevention. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. MMWR Morb Mort Wkly Rep. 2006; 55 (RR-14).
4. Curtis JR, Holmes KK. Individual-level risk assessment for STD/HIV infections. In Holmes KK, Mardh PA, Sparling PF, Weisner PJ., eds. Sexually transmitted diseases, 3rd ed. New York: McGraw-Hill, 1999:669-683.
5. Kamb ML, Fishbein M, Douglas JM, et al. Efficacy of risk-reduction counseling to prevent human immunodeficiency virus and sexually transmitted diseases: a randomized controlled trial. JAMA 1998; 280:161-167.
6. Seidel HM. Mosby's Guide to physical examination. 3rd ed. St. Louis, Mo: Mosby, 1995.
7. U. S. Preventive Services Task Force. Guide to clinical preventive services. 2nd ed. Baltimore, MD: Williams & Wilkins, 1996.
8. U.S. Preventive Services Task Force. Screening for chlamydial infection: Recommendations and rationale. Am J Prev Med 2001; 20(3S):90-94. Available at: <http://www.ahrq.gov/clinic/uspstf/uspstf05/gonorrhea/gonrs.htm>. Accessed July 2006.
9. U.S. Preventive Services Task Force. Screening for gonorrhea: recommendation statement. May 2005. Available at: <http://www.ahrq.gov/clinic/uspstf05/gonorrhea/gonrs.htm>. Accessed July 2006.

The Clinical Approach to the STD Patient

APPENDIX A

A Brief Guide to Sexually History Taking for Primary Care Providers

Setting the Stage: Introductory Statements and Questions

TEENS

Care needs to be taken when introducing sensitive topics such as sexuality with teenagers. It is important to interview the teen alone and reinforce confidentiality. Start by asking about neutral topics like school, sports, or other activities.

Discussions should be appropriate for the teen's developmental level and you should be explicit. If you identify that the teen is sexually active, you will want to clarify the kind of sex he/she has engaged in.

“Now I am going to take a few minutes to ask you some personal questions that are important for me to know so I can help you to be healthy. Anything we discuss will be completely confidential. I won't discuss this with anyone, not even your parents, without your permission. ”

“Some of my patients your age have started having sex. Have you had sex?”

ADULTS

“Now I am going to take a few minutes to ask you some direct questions about your sexual practices. These questions are very personal, but it is important for me to know so I can help you be healthy. I ask these questions of all of my patients regardless of age or marital status. Like the rest of this visit, this information is strictly confidential.”

The 5 “P”s: Partners, Pregnancy Prevention, Protection, Practices, Past STDs

1. Partners

It is important to determine the number and gender of a patient's sexual partners. One should make no assumptions of partner gender in the initial history taking.

- **“Do you have sex with men, women, or both?”**
- **“In the past 2 months, how many partners have you had sex with?”**
- **“In the past 12 months, how many partners have you had sex with?”**

2. Prevention of pregnancy

Based on partner information from the prior section, you may determine that the patient is at risk of pregnancy. If so, determine first if a pregnancy is desired.

- **“Are you or your partner trying to get pregnant?”**
If no, “What are you doing to prevent pregnancy?”

3. Protection from STDs

With this open-ended question, you allow different avenues of discussion: condom use, monogamy, the patient’s self-perception of risk. If you have determined that the patient has had only one partner in the past 12 months, infrequent or no condom use may not warrant risk-reduction counseling.

- **“What do you do to protect yourself from STDs and HIV?”**

4. Practices

If the patient has had more than one partner in the past year, you may want to explore sexual practices and condom use to guide risk-reduction strategies. Different types of sex, and whether the patient is insertive or receptive, will depend on the gender of partners.

“To understand your risks for STDs, I need to be explicit about the kind of sex you have had over the last year.”

- **“Have you had vaginal sex, meaning penis-in-vagina sex?”**
If answer is yes, “Do you use condoms: never, sometimes, or always?”
- **“Have you had anal sex, meaning penis-in-rectum/anus sex?”**
If answer is yes, “Do you use condoms: never, sometimes, or always?”
- **“Have you had oral sex, meaning mouth-on-penis/vagina?”**

For condom answers:

If answer is “never”: **“What makes it difficult to use condoms?”**

If answer is “sometimes”: **“In what situations, or with whom, do you not use condoms?”**

5. Past history of STDs

A history of certain STDs increases the risk of repeat infection. Affirmative answers should be followed up with specific questions about the type of infection and dates of treatment. Immunization history for hepatitis B also may be asked.

- **“Have you ever had an STD?”**
- **“Have any of your partners had an STD?”**

Additional Questions to Identify HIV and Hepatitis Risk

- **“Have you or any of your partners injected drugs?”**
- **“Have any of your partners exchanged money or drugs for sex?”**

Closing Statements

By the end of the interview, the patient may have additional information or questions.

- **“Is there anything else about your sexual practices that I need to know?”**

Be sure to thank the patient for his/her honesty and praise his/her protective behaviors. For a patient at higher risk for STDs, praise the safer sex practices you have identified. After reinforcing positive behavior, specifically address concerns regarding higher risk practices using client-centered methods of risk-reduction counseling.

The STD Female Exam

Learning Objectives

Upon completion of this content the learner will be able to:

1. List the equipment needed for an STD-oriented examination of the female.
2. State the steps, in appropriate order, for conducting a complete STD female exam.
3. Describe the principal normal and abnormal findings relevant to an STD exam to be noted at each step of the pelvic exam.
4. Discuss the correct technique in obtaining lab specimens for gonococcal and chlamydial testing, and wet mounts.
5. Conduct a female STD examination and specimen collection

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I. Preparation

A. Ask about previous experiences with exams (discomfort, etc.), if any. Prepare items needed for examination:

1. Robe and/or drape sheet to cover the patient
2. Gloves
3. High quality adjustable exam light
4. Tongue blades
5. Cotton/dacron swabs
6. Large swabs to clean ectocervix
7. Microscope slides/cover slips
8. Water-soluble lubricant
9. KOH solution
10. Saline solution
11. Vaginal specula in assorted sizes
12. Fixative, spatula and slide holder for cervical cytology slide, or other cervical cytology kit
13. Culture media and/or other diagnostic test kits for gonorrhea, chlamydia, herpes, HPV, as indicated
14. Other test kits.\
15. pH paper (pH 4-7)
16. Tissues
17. Sanitary pads/tampons
18. Mirror to assist patient with observation of exam
19. Chart, laboratory forms, labels, etc., for documentation
20. Clear plastic anoscopy instruments
21. Metric rulers for characterization and documentation of dimensions of lesions

B. Adjust table and stirrups to comfortable and safe height and position. Ensure clean paper covering for exam table.

C. Label all specimens and slides.

D. Assess whether urinary specimen needs to be collected.

E. Suggest that patient urinate to empty bladder prior to exam.

F. Instruct patient regarding proper collection of self-collected vaginal swab sample for CT/GC, if this test is being used.

G. Wash and warm hands.

H. Put on gloves.

I. Warm speculum if metal speculum is used.

II. Exam Technique Considerations

- A. Develop a standard technique for handling clean and contaminated articles and for following universal precautions:
 - 1. One hand clean, one hand contaminated, remaining consistent throughout the exam
 - 2. Two hands gloved, removing one glove before touching any other surface area
- B. Touch a "non-genital" area of the body first.
- C. Explain to the patient each step of the exam and what to expect.
- D. Watch for signs of discomfort (facial expressions, not relaxed, guarding).
- E. Avoid lengthy discussions when patient is in the exam position.
- F. Move exam light off of genital areas as soon as possible.
- G. Examine painful areas last.

III. The Exam

- A. General inspection and skin exam:
 - 1. Inspect face, trunk, and legs.
 - 2. Inspect skin, hands, palms, and forearms.
 - 3. Inspect soles of feet if syphilis is suspected.
 - 4. Note lesions, rashes, discoloration.
- B. Oral exam:
 - 1. Inspect mouth, including tongue, tonsils, hard and soft palate, buccal mucosa, and gums.
 - 2. Note presence of oral lesions, e.g.; thrush, hairy leukoplakia, lesions, mucous patches, discoloration, oral HSV, Kaposi's sarcoma, etc.
 - 3. Obtain specimen for gonorrhea testing if indicated by risk for oropharyngeal infection. Swab tonsillar areas and posterior pharynx.
- C. Palpate axillary, cervical, epitrochlear, and sublingual lymph nodes.
- D. Kidney exam if indicated
- E. Abdominal exam if indicated
- F. Position and drape:
 - 1. Help to put heels in foot holders (stirrups) and ask patient to move to the end of the table.
 - 2. Elevate head and shoulders slightly to help patient to relax and see.
 - 3. Cover thighs and knees with drape sheet. Depress drape between knees to allow eye contact with patient.

G. External genital exam:

1. Palpate inguinal lymph nodes; note fluctuance, swelling or tenderness.
2. Inspect pubic hair/skin; note crabs, nits, scabies, lesions, skin conditions.
3. Inspect external genital; note discharge, erythema, masses, lesions, warts, and tenderness. Include labia majora and minora, clitoris, urethral orifice, introitus and perineum.
4. Inspect and palpate Bartholin's glands by applying gentle pressure bilaterally between thumb and forefinger along labia minora and introitus.
5. Milk urethra (insert finger into vagina and gently compress urethra up against symphysis pubis) and observe for discharge from Skene's (paraurethral) glands. (Not always done or necessary.)
6. Collect specimens as indicated. Be sure to change gloves between potentially infected sites to avoid cross contamination.
7. Inspect the anus and perianal areas: note inflammation, lesions, warts, rashes or excoriation.
8. If rectal testing is indicated, obtain gonorrhea and/or chlamydia rectal tests by inserting cotton swab into the anus about 2 cm. Be sure to change gloves between potentially infected sites to avoid cross contamination.

H. Speculum insertion:

1. Insert index finger into vagina to identify firm, rounded surface of the cervix. (Not always done or necessary.)
2. Select appropriate size and shape of speculum (Pederson: narrow blades; usually better for virgins and elderly women. Graves: preferable for sexually active women). Selection is based on provider preference and experience. Plastic disposable specula are available in different sizes. Lubricate with warm water if necessary. Avoid use of lubricant jelly, which may interfere with diagnostic specimens.
3. Place two fingers at introitus and press down on perineal body. With other hand, introduce closed speculum past your fingers at oblique angle.
4. When speculum has entered the vagina, remove fingers from introitus. Rotate the blades into horizontal position. Maintain pressure posteriorly and insert speculum to its full length.

I. Inspect the cervix and vaginal walls:

1. Open blades and maneuver the speculum, if necessary, so that cervix comes into full view.
2. Secure the speculum with the blades open.
3. Inspect vaginal mucosa. Note vaginal secretions (amount, color, odor).
4. Inspect cervix and os. Note color, position, characteristics of its surface, (ectopy, polyps, Nabothian cysts), masses, ulcerations, nodules, bleeding or discharge, friability, strawberry cervix.

J. Collect specimens as appropriate:

1. Collect vaginal secretions for pH testing and wet preparations if indicated, (saline for clue cells and trichomonas, KOH for candida and whiff test) using secretions from either the anterior fornix or lateral wall, avoiding the pooled cervical secretions in the posterior fornix, the cervix, and contamination by lubricants or water. See Appendix A.
2. Place clean, white swab in cervix and withdraw. Observe swab for evidence of yellow mucopus and/or friability. (Cervical friability is defined as bleeding with insertion of the first or second cotton cervical swabs, not cytobrush.)
3. If lab has capacity for stat Gram stain, obtain specimen if mucopurulent cervical discharge is noted and gonorrhea prevalence is high.
4. Collect chlamydia and/or gonorrhea tests, if indicated.
5. Cervical cytology testing, if indicated. Order of specimen collection may affect test performance. Specimen for cervical cytology may be collected first or second, depending on the clinic protocol. Most experts believe that gonorrhea should be collected first.
6. Special consideration for clients who have had a hysterectomy: chlamydia and gonorrhea screening are generally not indicated. If testing is indicated, take gonorrhea and chlamydia test samples from the urethra using urethral swabs and take gonorrhea culture from rectum, or use amplified DNA test on urine or vaginal swab as available.

K. Inspect vagina:

1. Withdraw the speculum slowly while inspecting the vagina. As speculum clears the cervix, release the catch or thumb screw and maintain open position of speculum with thumb.

2. Maintain blades in open position to observe vaginal mucosa. Note inflammation, ulcers, or masses as speculum is withdrawn.
3. Close the blades as speculum emerges from the introitus to avoid stretching or pinching mucosa.

L. Bimanual exam:

1. Lubricate index and middle fingers of one of your gloved hands and, from a standing position, insert them into the vagina, again exerting pressure primarily posteriorly. Thumb should be abducted, ring and little fingers flexed into palm. Pressing downward on perineum with flexed fingers causes little, if any, discomfort and allows you to position your palpating fingers correctly. Note any nodularity or tenderness in the vaginal wall, including the region of the urethra and bladder anteriorly.
2. Palpate the cervix, noting its position, shape, consistency, regularity, mobility, and tenderness. Palpate the fornices 180° for abnormalities, pain, or other unusual findings (i.e.; foreign body, retained tampon).
3. Assess for cervical motion tenderness by moving the cervix from side to side (not up and down). Normally, the cervix can be moved somewhat without pain.
4. Place your other hand on the abdomen about midway between the umbilicus and the symphysis pubis. While you elevate the cervix and uterus with your pelvic hand, slowly press your abdominal hand down, trapping the uterus between your two hands. Assess the size, shape, consistency, position, and mobility. Note any tenderness or masses.
5. Slide both fingers of your pelvic hand into the anterior fornix and palpate the body of the uterus between your hands. If you are unable to identify the uterus with either of these maneuvers, the uterus may be tipped (posteriorly retroverted). In this case, slide your pelvic fingers into the posterior fornix and identify the uterus abutting against your fingers.
6. Place your abdominal hand on the right lower quadrant, your pelvic hand in the right lateral fornix. Press your abdominal hand in and down, trying to push the adnexal structures toward your pelvic hand. Identify the right ovary or any adjacent adnexal structures between your fingers, if possible, and note their size, shape, consistency, mobility, and tenderness. Repeat the procedure on the left side. Ovaries are normally approximately the size of an almond (<3 cm) and somewhat tender. They are often palpable in slender, relaxed women, but are difficult or impossible to recognize in others who are obese or tense.

M. Rectovaginal exam:

1. Not a routine part of the STD exam, but can be done, if indicated, to palpate a retroverted uterus.
2. Change to clean glove and place index finger into vagina and middle finger into rectum. Use the abdominal hand to perform a bimanual assessment. Masses and mid or posterior uterus may be better appreciated with this technique.
3. Anoscopic exam should be considered for patients with anorectal symptoms and a recent history of engaging in anal sex to visualize lesions and obtain specimens.. See Appendix B.
4. Rectal specimens should be collected prior to contamination with lubricant.

IV. References

1. Bates B. A guide to physical examination and history taking. 5th ed. Philadelphia: JB Lippincott,1991:385-408.
2. Hacker N, Moore J. Essentials of obstetrics and gynecology. 2nd ed. Philadelphia: WB Saunders and Co.,1992:12-21.
3. MacLaren A. Primary care for women: comprehensive sexual health assessment. J Nurse-Midwifery 1995; 40(2):104-119.
4. Seidel HM. Mosby's guide to physical examination. 3rd ed. St. Louis, Mo: Mosby, 1995.

Female STD Exam APPENDIX A

From: CDC. Program Operations Guidelines for STD Prevention: Medical and Laboratory Services. 2001. Appendix ML-B, -C.

Commonly Used Stat Tests: Useful Tips SALINE AND 10% KOH WET MOUNTS, VAGINAL PH

Test Principles

Vaginal secretions or exudates may be directly examined for the presence of yeast, *Trichomonas vaginalis*, or clue cells by using saline wet mounts (Stamm, 1988). KOH mounts are used to dissolve surrounding mucus or tissue for easier examination of specimens for yeast or fungal elements. In addition, a characteristic amine odor may be observed in patients with bacterial vaginosis and *T. vaginalis* when vaginal secretions are combined with 10% KOH. Vaginal pH greater than 4.5 also indicates presence of bacterial vaginosis or trichomoniasis.

Specimen Collection

Vaginal secretions and other appropriate specimens should be collected on a swab, which may be used for immediate examination. If the swab is placed in approximately 1 mL of sterile saline in a small test tube, this saline solution may be used for the wet prep and KOH prep. For determination of vaginal pH, touch pH paper to vaginal wall or to discharge in speculum. Avoid contact with cervical mucus because it has a high pH. Match pH paper to color scale to determine the pH value.

Procedure

1. Emulsify the specimen by immersing the end of the swab into the tube containing saline to make a heavy suspension.
2. Place specimen on a slide and cover with a cover-slip carefully to avoid trapping air bubbles under the coverslip.
3. Examine the slide immediately for the presence of yeast, trichomonads, or clue cells. Scan first on low power with reduced light; trichomonads can often be identified on low power. Switch to high power to check for the presence of yeast cells, pseudo-hyphae, clue cells, or less vigorously motile trichomonads. A KOH prep may be needed to better examine for yeast in purulent specimens.
4. The KOH prep is made by placing the specimen on a slide, adding 10% KOH, and mixing with a wooden applicator or swab. Cover with a coverslip and avoid trapping air bubbles. Sniff for a "fishy" odor.
5. Use low power to scan for yeast and confirm on high power.

Examination of Slide and Interpretation of Results

1. Trichomonads are only seen in the saline prep; they are lysed (broken down) by KOH. They are motile, are generally ovoid, slightly larger than polymorphous nuclear leukocytes (PMNs), and in fresh preparations are recognized by their jerky, swaying movement. The presence of even one organism is diagnostic. Actively motile trichomonads are easily seen on low power. High power is necessary to detect less vigorously moving organisms when only the flagella or undulating membrane may be in motion. Numerous PMNs are often present.
2. Numerous "clue" cells and few or no PMNs are indicative of bacterial vaginosis. "Clue cells" are irregularly bordered squamous epithelial cells whose cell outlines are obliterated by sheets of small bacteria. "Clue" cells are seen in saline, not KOH preps.
3. Yeast may be obscured by epithelial cells in the saline wet mount, but pseudo-hyphae and budding yeast cells are sometimes visible. PMNs may or may not be visible. In the KOH preparation, budding yeasts and pseudo-hyphae are more easily seen because epithelial cells and PMNs have been lysed. Use low power to scan for yeasts and confirm on high power. Care should be taken in interpreting apparent results; artifacts are common in KOH preps as a result of cell degeneration, air bubbles, crystallization, and glycerol.

Sources of Error

The following errors in technique will decrease the sensitivity of the wet mount:

- Collection of the specimen from the endocervix
- The use of cool saline (saline should be at room temperature)
- Delay in reading the smear
- Contamination of the saline prep with KOH
- Too much saline on the slide, causing the material to move rapidly across the field
- Making a preparation too thick
- Failure to read the slide with condenser lowered (too much light)
- Examination of only a small area of the slide

STD Female Exam APPENDIX B

From: CDC. Program Operations Guidelines for STD Prevention: Medical and Laboratory Services. 2001. Appendix ML-B, -C.

Commonly Used Stat Tests: Useful Tips GRAM STAIN FOR MICROORGANISMS

Test Principles

The Gram stain is the most commonly used stain in bacteriology. It is classified as a differential stain and serves to distinguish the Gram-positive from the Gram-negative bacteria. The original Gram stain technique has been modified a number of times, and the usual recommended procedure is the Hucker modification.

Although the Gram stain is among the least complicated and least time-consuming of all microbiological tests, the information that may be obtained from a properly stained smear of a specimen from a client is one of the most valuable aids to the clinician and the laboratorian. A properly performed stain can provide important diagnostic information concerning the type of organisms present, and the therapy to initiate while waiting for other test results. In the stat STD laboratory setting, the Gram stain is used to aid in the diagnosis of gonorrhea, candidal vulvovaginitis, and bacterial vaginosis, and in the assessment of urethritis, cervicitis, and other infections characterized by infected discharge. Both the numbers of polymorphonuclear leukocytes (PMNs) and microbial flora present can be assessed (Stamm, 1988).

Specimen Collection

Cervical smear

Wipe the cervix before collecting the specimen to reduce the amount of vaginal bacteria and cells in the smear.

Rectal smear

Use an anoscope to collect the specimen and sample areas containing pus.

Smear Preparation

To prepare a direct smear from a patient, roll swab with patient's specimen on a clean glass slide, making a thin spread; do not smear (leukocytes may be disrupted) or prepare a thin smear from a culture in a drop of water on the slide. Air dry the smear and fix to the glass by rapidly passing the slide through a Bunsen burner flame two or three times. The slide should be slightly warm to the skin on the back of the hand. Do not use swab from a DNA probe or Pap smear for a Gram stain.

Staining Schedule

1. Stain smears with crystal violet ammonium oxalate.
2. Wash in tap water.
3. Apply Gram's iodine solution.
4. Wash in tap water.
5. Decolorize with 95% ethyl alcohol until washes are no longer blue.
6. Wash and shake off excess water.
7. Apply counterstain of safranin.
8. Wash in tap water and blot dry.

Examination of Slide and Interpretation of Results

1. Scan the stained smear with the 10X objective to locate the best area for viewing.
2. Examine the smear microscopically with the oil immersion objective.
3. Gram-positive organisms appear purple and Gram-negative organisms appear red. Search for organisms and count PMNs. Cells and mucus should stain pink. Yeast stain purple. Bacteria are characterized as Gram-positive (purple) or Gram-negative (pink) and as cocci (round), bacilli (rod shaped), or coccobacilli (in between rods and cocci).
4. Control slides of representative Gram-positive and Gram-negative organisms should be examined each time Gram stains are performed.

Note: If using commercial kits or reagents, follow manufacturer's instructions in the product insert.

Sources of Error

- Scrubbing, not rolling, the swab across the slide may destroy cellular morphology.
- Failure to heat-fix the slide may cause material to wash off during staining.
- Overheating the slide may cause artifacts to be stained and cells to be distorted.
- Use of Gram's Iodine solution beyond expiration date (shelf-life of reagent at room temperature is approximately 90 days).
- Over-decolorizing the slide may cause Gram-positive organisms to appear Gram-negative.
- Under-decolorizing the slide may cause Gram-negative organisms to appear Gram-positive.
- Reagents contaminated with microorganisms may give erroneous results.

STD Male Exam

Learning Objectives

Upon completion of this content the learner will be able to:

1. List the equipment needed for a targeted male STD examination.
2. State the steps, in appropriate order, for conducting a complete male exam.
3. Describe the principal normal and abnormal findings relevant to an STD exam to be noted at each step of the male exam.
4. Discuss the correct technique in obtaining lab specimens for gonococcal and chlamydial testing and urethral Gram stains.
5. Conduct a male STD examination and specimen collection.,

This curricular outline was developed by the Curriculum Committee of the National Network of STD/HIV Prevention Training Centers. This project was funded through a grant by the US Centers for Disease Control and Prevention.

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I. Preparation

- A. The male patient should not routinely urinate before the genital exam, so that any urethral discharge will be present for evaluation and specimen preparation.
- B. Prepare items needed for examination:
 - 1. Adjustable high-quality exam light
 - 2. Gloves
 - 3. Cotton/dacron-tipped applicators
 - 4. Glass slide
 - 5. Tongue blades
 - 6. Culture media or other diagnostic test kits for gonorrhea, chlamydia, herpes, as indicated.
 - 7. Other test kits
 - 8. Clear plastic anoscope
 - 9. Water-soluble lubricant
 - 10. Chart, laboratory forms, labels, etc. for documentation
 - 11. Metric rulers for characterization and documentation of dimensions of lesions
- C. Explain about the exam to patient. Ask about previous experience with exams (discomfort, fainting) if any.
- D. Label all specimens and slides.
- E. Wash hands.
- F. Turn on and a
- G. adjust light.
- H. Put on gloves.

II. Exam Technique Considerations

- A. Develop a standard technique for handling clean and contaminated articles and for following universal precautions:
 - 1. One hand clean, one hand contaminated, remaining consistent throughout the exam.
 - 2. Two hands gloved, removing one glove before touching any other surface area.
- B. Touch a "non-genital" area of the body first.
- C. Make eye contact from time to time during the exam.
- D. Talk to the patient during the exam, explaining each step as you progress.
- E. Watch for signs of fainting (e.g., pallor, sweaty palms, weak knees, excessive perspiration).
- F. Avoid lengthy discussions when patient is in the exam position.
- G. Remove exam light off of genital area as soon as possible.
- H. Examine painful areas last.

III. The Exam

A. General inspection and skin exam:

1. Inspect face, trunk, and legs.
2. Inspect skin, hands, palms, and forearms.
3. Inspect soles of feet, if syphilis is suspected.
4. Note lesions, rashes, discoloration.

B. Oral exam:

1. Inspect mouth, including lips, buccal mucosa, tongue, tonsils, hard and soft palate, and gum.
2. Note presence of oral lesions, e.g., thrush, hairy leukoplakia, lesions, mucous patches, discoloration, oral HSV, Kaposi's sarcoma, etc.
3. Obtain specimen for gonorrhea testing if indicated by history of receptive oral sex with a male partner (i.e., "giving oral sex" to a male partner). Swab tonsillar areas and posterior pharynx.

C. Palpate axillary, cervical, epitrochlear and sublingual lymph nodes.

D. Genital exam:

1. Instruct patient to stand and lower pants/underpants to knees to expose genitalia and inguinal area.
2. Palpate inguinal lymph nodes for swelling, fluctuance, and tenderness.
3. Inspect pubic hair/skin for scabies, lice, nits, lesions, warts, skin conditions.
4. Palpate scrotal contents by gently compressing each testis, epididymis and spermatic cord between your thumb and first two fingers. Note tenderness, shape, masses, hernias, swelling, or presence of nodules.
5. Examine penis:
 - a) Inspect skin of penile shaft for ulcers, warts, masses, lesions, and signs of inflammation.
 - b) Retract or ask patient to retract the foreskin, if present.
 - c) Inspect glans for ulcers, lesions, and signs of inflammation.

- d) Compress glans gently between your thumb and index finger to open the urethral meatus. Inspect meatus for stenosis, lesions, erythema, urethral position.
 - e) If no discharge is visible, strip or milk the shaft of the penis from the base to the glans.
6. Obtain appropriate laboratory specimens; obtain all specimens following laboratory procedure and/or manufacturer's instruction. Specimens may include:
- a) Chlamydia: first-void urine or urethral swab
 - b) Gonorrhea: first-void urine, urethral swab, and/or Gram stain specimen (see Appendix A)
 - c) Specimens for other tests, as indicated (e.g., darkfield, direct HSV test)

E. Examine anus and perineum:

- 1. The exam may be performed in the lithotomy position or by asking the patient to bend forward over an exam table with hands positioned to the back to spread the buttocks apart.
- 2. Examine perianal areas and intergluteal cleft for lesions, rashes, discharge, warts, and fissures. Inspect the anus and perianal areas.
- 3. Spread apart anus with your fingers to look for ulcers, discharge.
- 4. Obtain gonorrhea and/or chlamydia rectal specimens (if indicated by anoreceptive sex) , following laboratory procedure and/or manufacturer's instructions.
- 5. Other specimens (direct HSV test, darkfield from lesion) as indicated.
- 6. Internal palpation (for abscess, fissures, masses, etc.), as indicated.
- 7. Anoscopic exam should be considered for patients with anorectal symptoms and a recent history of engaging in receptive anal sex to visualize lesions and obtain specimens for Gram stain. See Appendix A.
- 8. Rectal specimens should be collected prior to contamination with lubricant.

IV. References

1. Bates B. A Guide to Physical examination and history taking. 5th ed. Philadelphia: JB Lippincott, 1991:369-385.
2. Seidel HM. Mosby's Guide to Physical Examination. 3rd ed. St. Louis, Mo: Mosby,1995.
3. Tanagho E, McAninch J. Smith's general urology. 14th ed. Norwalk, Conn: Appleton and Lange. 1995:43-44.

Commonly Used Stat Tests: Useful Tips

GRAM STAIN FOR MICROORGANISMS

Test Principles

The Gram stain is the most commonly used stain in bacteriology. It is classified as a differential stain and serves to distinguish the Gram-positive from the Gram-negative bacteria. The original Gram stain technique has been modified a number of times, and the usual recommended procedure is the Hucker modification.

Although the Gram stain is among the least complicated and least time-consuming of all microbiological tests, the information that may be obtained from a properly stained smear of a specimen from a client is one of the most valuable aids to the clinician and the laboratorian. A properly performed stain can provide important diagnostic information concerning the type of organisms present, and the therapy to initiate while waiting for other test results. In the stat STD laboratory setting, the Gram stain is used to aid in the diagnosis of gonorrhea, candidal vulvovaginitis, and bacterial vaginosis, and in the assessment of urethritis, cervicitis, and other infections characterized by infected discharge. Both the numbers of polymorphonuclear leukocytes (PMNs) and microbial flora present can be assessed (Stamm, 1988).

Specimen Collection

Male urethral smear

Patient should not urinate prior to specimen collection. Insert a small swab into the urethra.

Rectal smear

Use an anoscope to collect the specimen and sample areas containing pus.

Smear Preparation

To prepare a direct smear from a patient, roll swab with patient's specimen on a clean glass slide, making a thin spread; do not smear (leukocytes may be disrupted) or prepare a thin smear from a culture in a drop of water on the slide. Air-dry the smear and fix to the glass by rapidly passing the slide through a Bunsen burner flame two or three times. The slide should be slightly warm to the skin on the back of the hand. Do not use swab from a DNA probe or Pap smear for a Gram stain.

Staining Schedule

1. Stain smears with crystal violet ammonium oxalate.
2. Wash in tap water.
3. Apply Gram's iodine solution.
4. Wash in tap water.
5. Decolorize with 95% ethyl alcohol until washes are no longer blue.
6. Wash and shake off excess water.
7. Apply counterstain of safranin.
8. Wash in tap water and blot dry.

Examination of Slide and Interpretation of Results

1. Scan the stained smear with the 10X objective to locate the best area for viewing.
2. Examine the smear microscopically with the oil immersion objective.
3. Gram-positive organisms appear purple and Gram-negative organisms appear red. Search for organisms and count PMNs. Cells and mucus should stain pink. Yeast stain purple. Bacteria are characterized as Gram-positive (purple) or Gram-negative (pink) and as cocci (round), bacilli (rod shaped), or coccobacilli (in between rods and cocci).
4. Control slides of representative Gram-positive and Gram-negative organisms should be examined each time Gram stains are performed.

Note: If using commercial kits or reagents, follow manufacturer's instructions in the product insert.

Sources of Error

- Scrubbing, not rolling, the swab across the slide may destroy cellular morphology.
- Failure to heat-fix the slide may cause material to wash off during staining.
- Overheating the slide may cause artifacts to be stained and cells to be distorted.
- Use of Gram's iodine solution beyond expiration date (shelf-life of reagent at room temperature is approximately 90 days).
- Over-decolorizing the slide may cause Gram-positive organisms to appear Gram-negative.
- Under-decolorizing the slide may cause Gram-negative organisms to appear Gram-positive.
- Reagents contaminated with microorganisms may give erroneous results.