

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 things 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 counseling.

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.

Curriculum Module Contributors

The Clinical Approach to the Evaluation for STD

Primary Editor 2001 Edition

Heidi M. Bauer, MD, MS, MPH, Director, Office of Medical and Scientific Affairs, STD Control Branch, State of California, Department of Health Services, Berkeley, CA, Medical Co-director, California STD/HIV Prevention Training Center, Berkeley, CA, Clinical Instructor, Department of Obstetrics, Gynecology and Reproductive Health Sciences, School of Medicine, University of California, San Francisco, CA

Contributing Editors 2001 Edition

Gail A. Bolan, MD, Chief, STD Control Branch, State of California, Department of Health Services, Berkeley, CA, Director, California STD/HIV Prevention Training Center, Berkeley, CA, Assistant Clinical Professor, School of Medicine, University of California, San Francisco, CA; **Helene Calvet, MD**, Medical Co-director, California STD/HIV Prevention Training Center, Long Beach, CA, Public Health Physician, Long Beach Department of Health and Human Services, Long Beach, CA; **Thomas Cherneskie, MD, MPH**, New York City Department of Health, STD Control Program, New York, NY; **John Douglas, MD**, Director of STD Control, Denver Public Health, Professor of Medicine and Preventive Medicine, University of Colorado Health Sciences Center, Denver, CO; **Charles L. Heaton, M.D.**, Professor of Dermatology, University of Cincinnati and Medical Director Cincinnati STD/HIV Prevention Training Center; Cincinnati, OH; **Kathryn Koski, MEd**, Public Health Advisor, CDC/Division of STD Prevention; Atlanta, GA; **James P. Luby, MD**, Professor of Internal Medicine, Division of Infectious Diseases, University of Texas Southwestern Medical School at Dallas, Medical Director, Dallas STD/HIV Prevention Training Center, Dallas, TX; **Jeanne Marrazzo, MD, MPH**, Assistant Professor, Infectious Diseases, University of Washington, Medical Director, Seattle STD/HIV Prevention Training Center, Seattle, WA; **Sylvie Ratelle, MD, MPH**, Director, STD/HIV Prevention Training Center of New England, Division of STD Prevention, Massachusetts Department of Public Health, Assistant Professor of Family Medicine and Community Health, University of Massachusetts Medical School, Boston, MA; **Anne Rompalo, MD, ScM**, Associate Professor, Division of Infectious Diseases, Joint Appointment, Department of OB/GYN, Johns Hopkins University School of Medicine, Associate Professor, Department of Epidemiology, Johns Hopkins University School of Hygiene and Public Health, Medical Director, Baltimore STD/HIV Prevention Training Center, Baltimore, MD; **Marianne Scharbo-DeHaan, PhD, CNM**, Training and Health Communications Branch, Division of STD Prevention, Centers for Disease Control and Prevention, Atlanta, GA; **Bradley Stoner, MD, PhD**, Associate Professor, Washington University School of Medicine, St. Louis, Medical Director, St. Louis STD/HIV Prevention Training Center, St. Louis, MO; **John F. Toney, M.D.**, Associate Professor of Medicine, Division of Infectious Diseases and Tropical Medicine, University of South Florida College of Medicine, Director, Florida STD/HIV Prevention Training Center, Tampa, Florida, CDC National Network of STD/HIV Prevention Training Centers

Expert Reviewers 2001 Edition

Teri Anderson, MT, Associate Clinical Training Coordinator, Denver STD/HIV Prevention Training Center, Denver Public Health Department, Denver, CO; **Linda Creegan, MSN, FNP**, Clinical Nurse Liaison, California STD/HIV Prevention Training Center, Berkeley, CA; **Tom Davis, BS**, Program Manager, Part I, Clinic and Laboratory Training Center, STD/HIV Prevention Training Center, Dallas County Health and Human Services, Dallas, TX; **Sudha Mehta, MD**, Medical Director, Cincinnati Health Department STD Clinic, Cincinnati, OH

Contributors to Previous Editions

Teri Anderson, MT, Associate Clinical Training Coordinator, Denver STD/HIV Prevention Training Center, Denver Public Health Department, Denver, CO; **Dianne Blocker, RNC, WHNP**, STD/HIV Clinic Supervisor, Dallas County Health and Human Services, Dallas, TX; **Gail A. Bolan, MD**, Chief, STD Control Branch, State of California, Department of Health Services, Director, California STD/HIV Prevention Training Center, Berkeley, CA, Assistant Clinical Professor, School of Medicine, University of California, San Francisco, CA; **Janet Duecy, PA-C, MPH**, Health Care Specialist, Harborview Medical Center STD Clinic, University of Washington, Seattle, WA; **Jennifer Flood, MD**, Assistant Clinical Professor, School of Medicine, University of California, San Francisco, CA, Medical Director, San Francisco City Clinic, San Francisco Department of Public Health, San Francisco STD/HIV Prevention Training Center; **Pamina Gorbach, MHS, DrPH**, Post-doctoral Research Fellow, Center for AIDS and STD, University of Washington, Seattle, WA; **Ruth M. Greenblatt, MD**, Associate Professor of Clinical Medicine, Department of Medicine and Epidemiology, Faculty Member, Department of Medicine, University of California, San Francisco, CA; **Edward Hook, MD**, Professor of Medicine, Division of Infectious Disease, University of Alabama at Birmingham, Medical Director, STD Control Program, Jefferson County Department of Health, Birmingham, AL; **Jack Kues, PhD**, Director of Continuing Medical Education, University of Cincinnati, Cincinnati, OH; **Lauren Mason, RN, BSN**, Clinical Training Coordinator, Denver STD/HIV Prevention Training Center, Denver Public Health Department, Denver, CO; **George Philip Schmid, MD, ScM**, Assistant Branch Chief for Science Translation, Program Development and Support Branch, Division of STD Prevention, National Center for HIV, STD, and TB Prevention, Centers for Disease Control and Prevention (CDC), Atlanta, GA; **Melissa Schreiber, PA-C**, Health Care Specialist, Harborview Medical Center STD Clinic, University of Washington, Seattle, WA

The National Network of STD/HIV Prevention Training Center (PTC) offers a special note of thanks to the members of the faculty and staff of the individual PTCs for their comments and support in developing these training modules.

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 and horizontal and vertical disease transmission in the community.
3. Promote 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. Maintain 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) Develop empathy with the patient.
 - f) Assure confidential nature of patient-provider information.
 - g) State the medical necessity of an accurate, complete, specific sexual behavioral history (testing, counseling, therapies, etc.)
 - h) Make no assumptions regarding gender, gender role 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,” “funny,” “sissy,” “punk,” “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. STD risk indicators (risk depends on specific STD):
 - a) Increasing number of lifetime sex partners.
 - b) Adolescents.
 - c) Residence in high prevalence area.
 - d) A history of prior STD diagnosis and treatment.
 - e) A sex partner with a known STD diagnosis.
 - f) More than one recent sex partner (past 1-4 months)
 - g) Sex partner with other recent sex partners (past 1-4 months).
 - h) Inconsistent use of barrier contraceptive methods with casual or multiple partners.
 - i) New partner in the last 2 or 3 months.
 - j) Commercial sex or exchange of sex for drugs.
 - k) A recent or past history of sexual assault or abuse.
 - l) Current use or a history of injection drug use or substance abuse by patient or sex partners.

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 HSV or warts.
4. Sexual partner with symptoms or recent STD diagnosis.
5. A positive test result and now needs treatment or has questions.
6. Routine pelvic and/or birth control.
7. Use of or need for emergency contraception.
8. Immunization and/or testing for Hepatitis A or B.
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 lesions or rashes (painful, recurrent).
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).
13. Abdominal complaints (nausea, vomiting, constipation, diarrhea).
14. Systemic or constitutional symptoms.
15. Acute arthritis symptoms.

C. History of symptoms and signs:

1. Anatomically stated, dimensions, distribution, onset, duration, recurrence.
2. Document metric measurement of all lesions, signs and symptoms.
3. Symptoms ever occurred in the past?
4. Have symptoms changed since onset?
5. Anything made symptoms better or worse?
6. 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.

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. 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 warts: genital or anal.
 9. Trichomoniasis.
 10. Bacterial vaginosis (females).
 11. Yeast: note frequency, treatment.
 12. Urinary tract infections.
 13. Hepatitis.
 14. HIV.

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.
2. Other genital cleansing: internally, perfumes, soaps.
3. Opportunity to educate and advise against douching.

D. Current contraception:

1. Method used.
2. If no method, whether pregnancy desired.
3. Do you have confidential access to family planning/reproductive care providers? Would you like that information?

E. Pap smear:

1. Last Pap: date, results.
2. History of abnormal Pap, year, treatment.

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. Clinic setting may also impact 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 four "Ps": Partners, Practices, Protection from STDs, and Past STDs. See Appendix A for examples of focused sexual history taking tools.
7. Opening question to normalize or explain: "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. 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 oropharyngeal, genital and anorectal 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 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. If partner has other sex partners.
10. Any high risk partners (HIV, IV drug user).
11. Partner with known diagnosis of STD or current STD symptoms.
12. Commercial sex, exchange of money or drugs for sex.

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 and/or insertive.
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", sadomasochism ("S & M").

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.

VI. HIV Risk Assessment:

- A. Previous HIV test result and date of last test.
- B. Sexual contact with men who have sex with other men.
- C. Sexual contact with known HIV-positive person.
- D. Sexual contact with injection drug user.

- E. Sexual contact with crack cocaine/speed user.
- F. Patient history of injection drug use, shared needles.
- G. Patient history of crack cocaine/speed use.
- H. History of exchanging drugs/money for sex.
- I. History of transfusion or hemophilia: note dates.
- J. History of occupational contact to bodily fluids.

VII. Social History

- A. History of or current sexual abuse, domestic violence.
- B. Drug use, IVDU, crack, speed, alcohol.
- C. Sex under the influence of alcohol or drugs.
- D. Homelessness.
- E. Prostitution, 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.

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, testing should not rely on the presence of symptoms.
 - 1. Sexually active young women age 25 and younger should be screened for chlamydia on an annual basis.
 - 2. Sexually active women should receive routine Pap smear testing.
 - 3. Pregnant women should be screened for syphilis and offered HIV testing.
 - 4. Screening recommendations for STDs in pregnancy also include chlamydia and gonorrhea depending on specific risk factors.
 - 5. Gonorrhea, syphilis, and HIV screening depend on specific risk factors.
 - 6. No screening recommendations currently exist for HSV or HPV infection.
- 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. Possible need for follow-up appointment.

IX. Patient Education

A. Client-centered counseling to assess risk, increase risk perception if appropriate and negotiate risk reduction plan as indicated by assessment.

B. Asymptomatic nature of many STDs and the need for screening.

C. Relationship of STDs to HIV risk.

D. Partner notification, confidentiality, and communication issues.

E. Contraception, as indicated.

F. Drug counseling, as indicated.

G. Advise to avoid douching.

H. Identify support, referrals for social services, domestic violence, substance abuse, as indicated.

X. References

1. American Medical Women's Association. Reproductive health curriculum 2000. Module 4: Sexually Transmitted Diseases Sexual History Taking, 1-14.
2. 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.
3. 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.
4. Seidel HM. Mosby's Guide to physical examination. 3rd ed. St. Louis, Mo: Mosby, 1995.
5. U. S. Preventive Services Task Force. Guide to clinical preventive services. 2nd ed. Baltimore, Md: Williams & Wilkins, 1996.
6. U. S. Preventive Services Task Force. Screening for chlamydial infection: recommendations and rationale. Am J Prev Med 2001; 20(3S):90-94.

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 with 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 sensitive questions that are important for me to help you 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”: **“Why don’t you 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 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 can 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 about?”**

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.

STD Female Exam

Learning Objectives

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

1. List the equipment needed for a routine STD-oriented examination of the female.
2. State the steps, in appropriate order, for conducting a complete routine 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, specimen collection, and behavioral counseling with 90% completeness.

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.

**Copyright 2001
National Network of STD/HIV Prevention Training Centers**

Curriculum Module Contributors STD Female Exam

Primary Editor 2001 Edition

Heidi M. Bauer, MD, MS, MPH

Director, Office of Medical and Scientific Affairs, STD Control Branch, State of California, Department of Health Services, Berkeley, CA

Medical Co-director, California STD/HIV Prevention Training Center, Berkeley, CA

Clinical Instructor, Department of Obstetrics, Gynecology and Reproductive Health Sciences, School of Medicine, University of California, San Francisco, CA

Contributing Editors 2001 Edition

Gail A. Bolan, MD, Chief, STD Control Branch, State of California, Department of Health Services, Berkeley, CA, Director, California STD/HIV Prevention Training Center, Berkeley, CA, Assistant Clinical Professor, School of Medicine, University of California, San Francisco, CA; **Helene Calvet, MD**, Medical Co-director, California STD/HIV Prevention Training Center, Long Beach, CA, Public Health Physician, Long Beach Department of Health and Human Services, Long Beach, CA; **Thomas Cherneskie, MD, MPH**, New York City Department of Health, STD Control Program, New York, NY; **John Douglas, MD**, Director of STD Control, Denver Public Health, Professor of Medicine and Preventive Medicine, University of Colorado Health Sciences Center, Denver, CO; **Charles L. Heaton, M.D.**, Professor of Dermatology, University of Cincinnati and Medical Director Cincinnati STD/HIV Prevention Training Center; Cincinnati, OH; **Kathryn Koski, MEd**, Public Health Advisor, CDC/Division of STD Prevention; Atlanta, GA; **James P. Luby, MD**, Professor of Internal Medicine, Division of Infectious Diseases, University of Texas Southwestern Medical School at Dallas, Medical Director, Dallas STD/HIV Prevention Training Center, Dallas, TX; **Jeanne Marrazzo, MD, MPH**, Assistant Professor, Infectious Diseases, University of Washington, Medical Director, Seattle STD/HIV Prevention Training Center, Seattle, WA; **Sylvie Ratelle, MD, MPH**, Director, STD/HIV Prevention Training Center of New England, Division of STD Prevention, Massachusetts Department of Public Health, Assistant Professor of Family Medicine and Community Health, University of Massachusetts Medical School, Boston, MA; **Anne Rompalo, MD, ScM**, Associate Professor, Division of Infectious Diseases, Joint Appointment, Department of OB/GYN, Johns Hopkins University School of Medicine, Associate Professor, Department of Epidemiology, Johns Hopkins University School of Hygiene and Public Health, Medical Director, Baltimore STD/HIV Prevention Training Center, Baltimore, MD; **Marianne Scharbo-DeHaan, PhD, CNM**, Training and Health Communications Branch, Division of STD Prevention, Centers for Disease Control and Prevention, Atlanta, GA; **Bradley Stoner, MD, PhD**, Associate Professor, Washington University School of Medicine, St. Louis, Medical Director, St. Louis STD/HIV Prevention Training Center, St. Louis, MO; **John F. Toney, M.D.**, Associate Professor of Medicine, Division of Infectious Diseases and Tropical Medicine, University of South Florida College of Medicine, Director, Florida STD/HIV Prevention Training Center, Tampa, Florida, CDC National Network of STD/HIV Prevention Training Centers

Expert Reviewers 2001 Edition

Teri Anderson, MT, Associate Clinical Training Coordinator, Denver STD/HIV Prevention Training Center, Denver Public Health Department, Denver, CO; **Linda Creegan FNP**, Clinical Faculty, California STD/HIV Prevention Training Center, California STD Control Branch, Department of Health Services, Berkeley, CA; **Tom Davis, BS**, Program Manager, STD/HIV Prevention Training Center, Dallas County Health and Human Services, Dallas, TX; **Sudha Mehta, MD**, Medical Director, Cincinnati Health Department STD Clinic, Cincinnati, OH

Contributors to Previous Editions

Dianne Blocker, RNC, WHNP, STD/HIV Clinic Supervisor, Dallas County Health & Human Services, Dallas, TX; **Cynthia Ewers, PA-C**, Health Care Specialist, Harborview Medical Center STD Clinic, University of Washington, Seattle, WA; **Jennifer Flood, MD**, Assistant Clinical Professor, School of Medicine, University of California, San Francisco, CA, Medical Director, San Francisco City Clinic, San Francisco Department of Public Health, San Francisco STD/HIV Prevention Training Center; **Ruth M. Greenblatt, MD**, Associate Professor of Clinical Medicine, Department of Medicine and Epidemiology, Faculty Member, Department of Medicine, University of California, San Francisco, CA; **Edward Hook, MD**, Professor of Medicine, Division of Infectious Disease, University of Alabama at Birmingham Medical Director, STD Control Program, Jefferson County Department of Health, Birmingham, AL; **Jack Kues, PhD**, Assistant Dean for Continuing Medical Education, University of Cincinnati, Cincinnati, OH; **Negusse Ocbamichael, PA-C**, Health Care Specialist, Harborview Medical Center STD Clinic, University of Washington, Seattle, WA; **George Philip Schmid, MD, ScM**, Assistant Branch Chief for Science Translation, Program Development and Support Branch, Division of STD Prevention, National Center for HIV, STD, and TB Prevention, Centers for Disease Control and Prevention (CDC), Atlanta, GA; **Judy Shlay, MD**, Director, Denver Teen Clinic, Denver Public Health Department, Denver, CO, Assistant Professor, Department of Family Medicine, University of Colorado Health Sciences Center, Denver, CO.

The National Network of STD/HIV Prevention Training Center (PTC) offers a special note of thanks to the members of the faculty and staff of the individual PTCs for their comments and support in developing these training modules.

I. Preparation

A. Prepare items needed for examination:

1. Crown or drape sheet to cover the patient.
2. Gloves.
3. High quality adjustable exam light.
4. Tongue blades.
5. Cotton/dacron swabs. Calcium alginate swab, when needed.
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 Pap Smear. or other Pap kit.
13. Culture media or other diagnostic test kits for gonorrhea, chlamydia, herpes.
14. Other test kits.
15. pH paper (pH 4-7).
16. Tissues or tissue napkins.
17. Mirror to assist patient with observation of exam.
18. Chart, laboratory forms, labels, etc., for documentation.
19. Clear plastic anoscopy instruments.
20. Metric rulers for characterization and documentation of dimensions of lesions.

B. Label all specimens and slides.

C. Assess whether urinary specimen needs to be collected.

D. Suggest that bladder be emptied prior to exam.

E. Wash and warm hands.

F. Put on gloves.

G. Warm speculum only if metal speculum is used.

H. Ask about previous experiences with exams (discomfort, etc.), if any.

II. Exam Techniques 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.
- D. Explain to the patient each step of the exam and what to expect.
- E. Watch for signs of discomfort (facial expressions, not relaxed, guarding).
- F. Avoid lengthy discussions when patient is in the exam position.
- G. Move exam light off of genital areas 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 exposed skin, hands, palms, and forearms.
 - 3. Inspect soles of feet if syphilis is suspected.
 - 4. Look for lesions, rashes, discoloration.
- B. Oral exam:
 - 1. Inspect mouth, including tongue, tonsils, hard and soft palate, and gum lines.
 - 2. Note presence of oral infections, 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 oral sex. 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 for fluctuance, swelling or tenderness.
 - 2. Inspect pubic hair/skin for crabs, nits, lesions, scabies.
 - 3. Inspect external genitalia for discharge, erythema, masses, lesions 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.
 - 6. Collect specimens (Gram stain of discharge, HSV culture, darkfield or DFA-TP from lesion) 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, rashes or excoriation.
 - 8. Prior to contamination with lubricant, obtain gonorrhea and/or chlamydia rectal cultures (if indicated by ano-receptive sex) 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. Never use lubricant jelly, as it will 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. Note vaginal secretions (amount, color, odor).
4. Inspect cervix and os. Note color, position, characteristics of its surface, (ulcerations, nodules, polyps, nabothian cysts), masses, bleeding or discharge, ectopy, friability, strawberry cervix.

J. Collect specimens as appropriate:

1. Collect vaginal secretions for pH testing and wet preparations, (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. After cleaning mucus from cervix, collect endocervical specimens for gonorrhea and chlamydia. For most chlamydia tests, an adequate number of columnar cells must be collected.

3. Consider Gram stain if gonorrhea prevalence is high and clinic has CLIA approval. If cervical os is small, may use urethral swab (i.e., male urethral calcium alginate swab). See Appendix B.
4. Observe endocervical swab specimens 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.)
5. Pap smear if indicated. Note that swab order may affect test performance. Test for gonorrhea should precede test for chlamydia. Pap smear may either fit between the two tests or be collected last, depending on the clinic protocol. Most experts believe that gonorrhea should be collected first. If using amplified tests for chlamydia, Pap should be collected last.
6. Special consideration for clients who have had a hysterectomy: 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 approved by the FDA.

K. Inspect vagina:

1. Withdraw the speculum slowly while observing the vagina. As speculum clears the cervix, release the 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 inward 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. Normally, the cervix can be moved somewhat without pain.

Palpate the fornices 180° for abnormalities, pain, or other unusual findings (i.e., foreign body, retained tampon).

3. 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. Identify any tenderness or masses.
4. 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.
5. 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 usually palpable in slender, relaxed women, but are difficult or impossible to recognize in others who are obese or poorly relaxed.

M. Rectovaginal exam:

1. Not a routine part of the STD exam, but can be done, if desired, 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 for Gram stain and gonococcal cultures. 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.

STD Female 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 have ameboid properties, are generally ovoid, slightly large 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 amount, 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 for detection of *T. vaginalis*:

- 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 routine targeted male STD examination.
2. State the steps, in appropriate order, for conducting a complete routine 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, specimen collection, and behavioral counseling with 90% completeness.

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.

**Copyright 2001
National Network of STD/HIV Prevention Training Centers**

Curriculum Module Contributors STD Male Exam

Primary Editor 2001 Edition

Heidi M. Bauer, MD, MS, MPH

Director, Office of Medical and Scientific Affairs, STD Control Branch, State of California, Department of Health Services, Berkeley, CA

Medical Co-director, California STD/HIV Prevention Training Center, Berkeley, CA

Clinical Instructor, Department of Obstetrics, Gynecology and Reproductive Health Sciences, School of Medicine, University of California, San Francisco, CA

Contributing Editors 2001 Edition

Gail A. Bolan, MD, Chief, STD Control Branch, State of California, Department of Health Services, Berkeley, CA, Director, California STD/HIV Prevention Training Center, Berkeley, CA, Assistant Clinical Professor, School of Medicine, University of California, San Francisco, CA; **Helene Calvet, MD**, Medical Co-director, California STD/HIV Prevention Training Center, Long Beach, CA, Public Health Physician, Long Beach Department of Health and Human Services, Long Beach, CA; **Thomas Cherneskie, MD, MPH**, New York City Department of Health, STD Control Program, New York, NY; **John Douglas, MD**, Director of STD Control, Denver Public Health, Professor of Medicine and Preventive Medicine, University of Colorado Health Sciences Center, Denver, CO; **Charles L. Heaton, M.D.**, Professor of Dermatology, University of Cincinnati and Medical Director Cincinnati STD/HIV Prevention Training Center; Cincinnati, OH; **Kathryn Koski, MEd**, Public Health Advisor, CDC/Division of STD Prevention; Atlanta, GA; **James P. Luby, MD**, Professor of Internal Medicine, Division of Infectious Diseases, University of Texas Southwestern Medical School at Dallas, Medical Director, Dallas STD/HIV Prevention Training Center, Dallas, TX; **Jeanne Marrazzo, MD, MPH**, Assistant Professor, Infectious Diseases, University of Washington, Medical Director, Seattle STD/HIV Prevention Training Center, Seattle, WA; **Sylvie Ratelle, MD, MPH**, Director, STD/HIV Prevention Training Center of New England, Division of STD Prevention, Massachusetts Department of Public Health, Assistant Professor of Family Medicine and Community Health, University of Massachusetts Medical School, Boston, MA; **Anne Rompalo, MD, ScM**, Associate Professor, Division of Infectious Diseases, Joint Appointment, Department of OB/GYN, Johns Hopkins University School of Medicine, Associate Professor, Department of Epidemiology, Johns Hopkins University School of Hygiene and Public Health, Medical Director, Baltimore STD/HIV Prevention Training Center, Baltimore, MD; **Marianne Scharbo-DeHaan, PhD, CNM**, Training and Health Communications Branch, Division of STD Prevention, Centers for Disease Control and Prevention, Atlanta, GA; **Bradley Stoner, MD, PhD**, Associate Professor, Washington University School of Medicine, St. Louis, Medical Director, St. Louis STD/HIV Prevention Training Center, St. Louis, MO; **John F. Toney, M.D.**, Associate Professor of Medicine, Division of Infectious Diseases and Tropical Medicine, University of South Florida College of Medicine, Director, Florida STD/HIV Prevention Training Center, Tampa, Florida, CDC National Network of STD/HIV Prevention Training Centers

Expert Reviewers 2001 Edition

Teri Anderson, MT, Associate Clinical Training Coordinator, Denver STD/HIV Prevention Training Center, Denver Public Health Department, Denver, CO; **Linda Creegan FNP**, Clinical Faculty, California STD/HIV Prevention Training Center, California STD Control Branch, Department of Health Services, Berkeley, CA; **Tom Davis, BS**, Program Manager, STD/HIV Prevention Training Center, Dallas County Health and Human Services, Dallas, TX; **Sudha Mehta, MD**, Medical Director, Cincinnati Health Department STD Clinic, Cincinnati, OH

Contributors to Previous Editions

Dianne Blocker, RNC, WHNP, STD/HIV Clinic Supervisor, Dallas County Health and Human Services, Dallas, TX; **Jennifer Flood, MD**, Assistant Clinical Professor, School of Medicine, University of California, San Francisco, CA, Medical Director, San Francisco City Clinic, San Francisco Department of Public Health, San Francisco STD/HIV Prevention Training Center; **Ruth M. Greenblatt, MD**, Associate Professor of Clinical Medicine, Department of Medicine and Epidemiology, Faculty Member, Department of Medicine, University of California, San Francisco, CA; **Edward Hook, MD**, Professor of Medicine, Division of Infectious Disease, University of Alabama at Birmingham Medical Director, STD Control Program, Jefferson County Department of Health, Birmingham, AL; **Jack Kues, PhD**, Assistant Dean for Continuing Medical Education, University of Cincinnati, Cincinnati, OH; **Negusse Ocbamichael, PA-C**, Health Care Specialist, Harborview Medical Center STD Clinic, University of Washington, Seattle, WA; **Sally Pendas, ARNP**, Health Care Specialist, Harborview Medical Center STD Clinic, University of Washington, Seattle, WA; **George Philip Schmid, MD, ScM**, Assistant Branch Chief for Science Translation, Program Development and Support Branch, Division of STD Prevention, National Center for HIV, STD, and TB Prevention, Centers for Disease Control and Prevention (CDC), Atlanta, GA.

The National Network of STD/HIV Prevention Training Center (PTC) offers a special note of thanks to the members of the faculty and staff of the individual PTCs for their comments and support in developing these training modules.

I. Preparation

- A. Prepare items needed for examination:
 - 1. Adjustable high-quality exam light.
 - 2. Gloves.
 - 3. Cotton/dacron swabs. Calcium alginate swabs.
 - 4. Cotton-tipped applicators.
 - 5. Glass slide.
 - 6. Tongue blades.
 - 7. Culture media or other diagnostic test kits for gonorrhea, chlamydia, herpes.
 - 8. Other test kits.
 - 9. Clear plastic anoscope.
 - 10. Water-soluble lubricant.
 - 11. Amplified DNA probe test kits for chlamydia and gonorrhea.
 - 12. Chart, laboratory forms, labels, etc. for documentation.
 - 13. Metric rulers for characterization and documentation of dimensions of lesions.
- B. Label all specimens and slides.
- C. Wash hands.
- D. Put on gloves.
- E. Explain to patient what to expect.
- F. Ask about previous experience with exams (discomfort, fainting) if any.

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.
- D. Talk to the patient during the exam.
- 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 exposed skin, hands, palms, and forearms.
 3. Inspect soles of feet if syphilis is suspected.
 4. Look for lesions, rashes, discoloration.
- B. Oral exam:
1. Inspect mouth, including lips, tongue, tonsils, hard and soft palate, and gum lines.
 2. Note presence of oral infections, 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 performing oral sex on another male. 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 fluctuance, swelling and tenderness.
3. Inspect pubic hair/skin for scabies, lice, nits and lesions.
4. Palpate scrotal contents by gently compressing each testis and epididymis and spermatic cord between your thumb and first two fingers:
 - a) Note tenderness, shape, masses, hernias, swelling, or presence of nodules.
 - b) Identify spermatic cord with its vas deferens and epididymis; note tenderness, swelling, or mass.
5. Examine penis:
 - a) Inspect skin.
 - b) Retract or ask patient to retract the foreskin, if present.
 - c) Inspect glans for ulcers, raised lesions, or signs of inflammation.
 - d) Compress glans gently between your thumb and index finger to open the urethral meatus.
 - e) If no discharge is visible, strip or milk the shaft of the penis from the base to the glans.
 - f) Inspect meatus for stenosis, lesions, urethral position.
6. Obtain appropriate laboratory specimens:
 - a) Obtain a sample of urethral discharge for urethral Gram stain. See Appendix A.
 - b) Obtain a gonorrhea specimen by inserting a calcium alginate swab 1-2 cm and inoculate into media per clinic protocol.
 - c) If chlamydia testing is indicated, insert swab 2-3 cm, gently rotating 360° as you withdraw the swab.
 - d) Other specimens (saline microscopy, HSV culture, darkfield or DFA-TP from lesion, KOH) as indicated.
 - e) First-void urine specimen for leukocyte esterase (LE), microscopy, gonorrhea/chlamydia amplified DNA tests (if not already done), as indicated.
 - f) Be sure to change gloves between potentially infected sites to avoid cross contamination.

E. Examine anus and perineum:

1. The exam may be performed in the lithotomy position or by asking the patient to bend forward with hands positioned to the back to spread the buttocks apart.
2. Examine perianal areas and intergluteal cleft for lesions, rashes, discharge, 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 culture (if indicated by ano-receptive sex) by inserting cotton swab into the anus about 2 cm.
5. Other specimens (HSV culture, darkfield or DFA-TP 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 and gonococcal cultures. 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.

STD Male 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 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.