BACKGROUND

Sexually Transmitted Infections (STIs) are common in resource-poor settings and, if left untreated, can lead to life-threatening and long-term complications, including infertility. Being infected with an STI also increases a person’s risk of contracting and transmitting HIV. To break the cycle of STI/HIV transmission, clinicians must use a comprehensive approach to the management of STIs.

GOAL OF THE UNIT

In this unit, you will learn about all aspects of the comprehensive approach to the management of STIs. You will learn how to screen for STIs and identify risky sexual behaviors using the “COMPAS + HIV” tool, and how to perform effective education, prevention, and partner notification by using the “Ladder of Risk” tool and the “Choices-Barriers-Decisions” method. You will also learn how to diagnose and treat STIs using clinical algorithms, and you will practice using these algorithms with case studies. Implementing all aspects of this comprehensive approach will help you break the cycle of STI/HIV transmission and improve overall community health.
GENERAL OBJECTIVES

By the end of the unit, you will be able to:

1. Screen every HIV patient for STIs and risky sexual behaviors using the COMPAS + HIV tool, and test every patient with an STI for HIV.

2. Integrate education and prevention into every STI or HIV patient encounter using the “Ladder of Risk” tool, the Choices-Barrier-Decisions method, and effective communication techniques.

3. Develop partner notification and treatment plans with STI patients using the full clinical team including, nurse, doctor, community health worker, and social worker.

4. Recognize STI syndromes including vaginal discharge and lower abdominal pain in women, urethral discharge and scrotal pain and swelling in men, genital lesions in men and women, and conjunctivitis in the newborn.

5. Use the eight clinical algorithms on STI syndromes (urethral discharge in male patients; scrotal swelling in male patients; abnormal vaginal discharge in female patients; lower abdominal pain in female patients; conjunctivitis in the newborn; genital ulcers; inguinal buboes; and genital warts) to diagnose, treat, and educate the patient.

6. Explain how to adapt diagnosis and treatment plans for pregnant patients and newborns infected with STIs.

When you see this icon, check the information to make sure it is up to date.

(This includes all protocols, algorithms, treatments, and statistics which are subject to change.)
UNIT 4 – A Comprehensive Approach to the Management of Sexually Transmitted Infections

PART 1  Introduction to Unit 4

Background: Epidemiology of STIs
Diagnosis and treatment of STIs is an important part of every clinician’s work, especially when caring for HIV-infected patients. STI/HIV co-infection is common. STIs can make people very sick, particularly those who are immunocompromised. STIs can lead to life-threatening or long-term complications, such as pelvic inflammatory disease, ectopic pregnancy, and infertility.

To fight the spread of STIs and the risks they bring, screen for STIs at every patient encounter. Test every patient with an STI for HIV. Know how to diagnose and treat STIs. Treat the patient AND the patient’s sexual partner(s). Educate the patient and the patient’s sexual partner(s) about STIs and how to prevent them.

The epidemiological situation of STIs is not well known in Rwanda. This table shows the number of reported STIs in health centers from 2001 to 2006. Typically, STIs are underreported, so these numbers might be even higher in reality.
Addressing STIs is part of the comprehensive approach to HIV for these reasons:

1. Some STIs can make people very sick, and this is particularly true for HIV-positive people with weakened immune systems.

2. In HIV-positive people, the presence of STIs (especially ulcerative genital diseases) increases HIV shedding in the genital tract, which increases the likelihood that they will transmit HIV to their partner.

3. In HIV-negative people, the presence of STIs alters the integrity of their mucous membranes and increases their chance of acquiring HIV if exposed.

4. Preventing and treating STIs is an important step toward preventing HIV in communities.

### STIs in Health Centers in Rwanda 2001-2006

<table>
<thead>
<tr>
<th>STI</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conjunctivitis in the newborn</td>
<td>632</td>
<td>601</td>
<td>911</td>
<td>1158</td>
<td>1625</td>
<td>1611</td>
<td>6538</td>
</tr>
<tr>
<td>Urethral discharge</td>
<td>7116</td>
<td>8436</td>
<td>9185</td>
<td>14055</td>
<td>16926</td>
<td>18061</td>
<td>73779</td>
</tr>
<tr>
<td>Genital ulcers in women</td>
<td>4270</td>
<td>4580</td>
<td>4936</td>
<td>7164</td>
<td>8626</td>
<td>9865</td>
<td>39441</td>
</tr>
<tr>
<td>Genital ulcers in men</td>
<td>4328</td>
<td>4681</td>
<td>5739</td>
<td>7182</td>
<td>8605</td>
<td>9835</td>
<td>40370</td>
</tr>
</tbody>
</table>


### Key Points

1. Because STIs are common, diagnosis and treatment of STIs is an important part of clinicians’ work.

2. Untreated STIs increase the risk of HIV infection if the patient is exposed to HIV.

3. Being infected with HIV can increase susceptibility to contracting other STIs and can increase the severity of STIs.
Challenges to Breaking the Cycle of STI/HIV Transmission

People contract STIs by having unprotected sex with an infected person. The people most at risk for contracting STIs are people who have unprotected sex, people who have multiple sexual partners, people who are forced to have sex, and people whose partners have sex with multiple partners.

There are many challenges to breaking the cycle of STI/HIV transmission. They include stigma and shame; myths and misconceptions; taboos and traditional beliefs about sex; risky sexual behaviors; clinicians’ attitudes; and poverty.
STIGMA AND SHAME
If the community stigmatizes people known to have STIs, those infected will be ashamed of admitting to or talking about symptoms when they go to the clinic. When someone with an STI/HIV hides it, the infection goes untreated, continuing the cycle of transmission.

MYTHS and MISCONCEPTIONS
If people have misconceptions about how STIs are transmitted, they will not know how to lower their risk for infection. If people have misconceptions about symptoms (women may think, for example, that increased vaginal discharge is normal), they will not seek care. Misconceptions can also cause communities to stigmatize people with STIs, which may prevent them from coming forward for treatment.

TABOOS AND TRADITIONAL BELIEFS ABOUT SEX
Talking about sex or sexual practices is taboo. Patients and even clinicians are reluctant to ask or talk about symptoms or sexual practices that put people at risk for STIs. Traditional beliefs about sexuality may encourage behaviors that increase the risk of contracting and spreading STIs/HIV.

RISKY SEXUAL BEHAVIORS
If people engage in unprotected anal or vaginal sex (without condoms), their risk of contracting or transmitting an STI is high.

CLINICIANS’ ATTITUDES
Some clinicians may be uncomfortable talking with patients about sexual issues or may avoid doing physical exams. Clinicians should work to break taboos around sex by talking openly with patients about sexual issues and how to protect themselves against STIs.

POVERTY
People living in poverty may not have adequate access to health care, education, or information, women may have little choice about sexual partners and might sometimes be forced to exchange sex for money, spouses often have to leave the family to find work and may seek other sexual partners while they are away, etc.

There are many challenges to breaking the cycle of STI/HIV transmission in the community. To break this cycle, clinicians must use a comprehensive approach to the management of STIs.

KEY POINTS

1. Challenges to breaking the cycle of STI/HIV transmission include stigma/shame, myths and misconceptions about STIs, taboos and traditional beliefs about sex, risky sexual behaviors, attitudes of some clinicians, and poverty.

2. A comprehensive approach to the management of STIs must be used to address these challenges.

3. Clinicians play an important role in breaking the cycle of STI/HIV transmission. They should work to break taboos around sex by talking openly with patients about sexual issues and how to protect themselves against STIs.
Four Key Elements of a Comprehensive Approach to the Management of STIs

A comprehensive approach to the management of STIs involves four key elements:

1. Integrated STI/HIV management (screen for STIs at every encounter with HIV-infected patients; test every patient with an STI for HIV)

2. Team approach (clinician, social worker, and community health worker work together to address psychosocial issues)

3. Education and prevention counseling

4. Partner notification and treatment

ACTIVITY

Task: Review the following scenario, then discuss the questions listed below with your group. Have someone in your group take notes on your discussion so your group can report back to the larger group.

Marie lives in a village about one hour from the clinic and has come to the clinic to see you. When you ask her what is wrong she is reluctant to speak. She finally opens up and tells you that she has been having pain and has found sores “down there.” She hasn’t told anyone, not even her husband, since they do not talk about these things. She says she has had these symptoms for two weeks. The pain and sores have gotten worse, so Marie felt she had to come to the clinic, even though she didn’t want to. Marie hopes that you will give her some medicine so she can take care of the problem “quietly.” She told her husband that she was going to the clinic for “indigestion,” and she doesn’t want him to know the truth. She is also afraid the neighbors might find out. She says that only “bad women” have these problems. If her husband thinks she has been with other men, he will throw her out of the house. You ask Marie if her husband is monogamous, and she says she doesn’t know and would never ask him – men will do what men will do and a wife should not question this.

1. Which of these challenges – stigma and shame; myths and misconceptions; taboos and traditional beliefs about sex; risky sexual behaviors; clinicians’ attitudes; poverty – contribute to the continuing transmission of STIs in Marie’s case?

_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
2. How would you handle Marie’s situation to break this cycle of transmission?

_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________

KEY POINT

The comprehensive approach for the management of STIs includes these 4 elements:
• Integrated STI/HIV management (screen for STIs at every encounter with HIV-infected patients; test every patient with an STI for HIV)
• Team approach (clinician, social worker, and community health worker work together to address psychosocial issues)
• Education and prevention counseling
• Partner notification and treatment
Integrated STI and HIV Management

The first element of the comprehensive approach to the management of STIs is integrated STI and HIV management. That means that during every encounter with an HIV-infected patient, clinicians should screen and treat for STIs, and all patients with an STI should be offered HIV testing. Screening is key to identifying patients who have an STI or are at risk of contracting or transmitting STIs. Look at the 10 STI screening questions, then look at the COMPAS + HIV questions that elaborate on question 1. You must ask all the questions to be sure you are identifying STI-infected patients.

The STI screening questions are:

1. Have you had risky sexual behavior recently?
2. Do you have pain on urination?
3. Do you have abnormal vaginal discharge or discharge from your penis?
4. Do you have genital ulcers or sores?
5. Do you have lower abdominal pain?
6. Do you have vaginal itching?
7. Does your newborn have eye discharge?
8. Do you have scrotal swelling or testicular pain?
9. Do you have genital warts?
10. Do you have pain during sexual intercourse?

These screening questions relate directly to the STI syndromes, which are described in more detail on page 25.

Have You Had Risky Sexual Behavior Recently?

Often, patients will not realize that their current sexual activity is risky. Therefore, rather than asking patients directly “Have you had risky sexual activity recently?”, instead ask a set of more specific questions that evaluate their risk. Risky sexual behavior means sexual behavior that puts a person at risk of contracting or transmitting STIs/HIV to someone else. Ask the “COMPAS” questions listed below and the HIV question. Notice that the COMPAS questions touch upon similar issues that are represented in the common acronym “ABC” (Abstinence, Be Faithful, Condoms). These similarities include the domains of sexual activities, sexual partners, and condom use. COMPAS also presents additional questions to help you better understand your patient’s behaviors, vulnerability to external factors, and current symptoms. With this information, you will be better able to help him or her make an individualized risk reduction plan.
**COMPAS + HIV**

CO = Condoms and Circumcision
M = Menace
P = Partners
A = Activities
S = Symptoms

HIV

**Condoms and Circumcision**

- Do you use condoms when you have sex? Every time? If not, why?
- Have you considered male circumcision to reduce your risk of becoming infected with HIV?

**Menace**

- Have you ever been forced to have sex, raped?
- Have you ever had sex in exchange for money?

**Partners**

- Are you sexually active?
- How many partners do you have currently?
- Do you know if your partners are monogamous?
- Do you know the HIV status of your partner?
- Do you know if you ever had any sexually transmitted infection in the past?

**Activities**

- Do you have sex with men, women, or both?
- Do you have vaginal/anal/oral sex?

**Symptoms**

- Do you have pain on urination?
- Do you have abnormal vaginal discharge or discharge from your penis?
- Do you have genital ulcers or sores?
- Do you have lower abdominal pain?
- Do you have vaginal itching?
- Does your newborn have eye discharge?
- Do you have scrotal swelling?
- Do you have genital warts?
- Do you have pain during sexual intercourse?

**HIV**

- Have you ever been tested for HIV? When was the date of your last HIV test, and what was the result?
## COMPAS + HIV Chart

<table>
<thead>
<tr>
<th>SCREENING QUESTIONS</th>
<th>RATIONALE</th>
</tr>
</thead>
</table>
| **COndoms and Circumcision**  
  • Do you use condoms when you have sex? Every time? If not, why?  
  • Have you considered male circumcision to reduce your risk of becoming infected with HIV? | Why is it important to ask about condom use?  
Sexual intercourse without a condom puts a person at risk of contracting or transmitting STIs/HIV. This is an opportunity to educate the patient on the importance of using condoms to protect her/himself against STIs/HIV and give her/him a supply of condoms.  
The Rwanda Ministry of Health supports voluntary encouragement of male circumcision for males of all ages for HIV risk-reduction. |
| **Menace**  
  • Have you ever been forced to have sex, raped?  
  • Have you ever had sex in exchange for money? | Why is it important to ask about forced sex?  
A person forced to have sex cannot protect her/himself against STIs/HIV and is at high risk of STIs/HIV. If a patient is in a situation where this happens, the clinician should ensure that s/he receives the proper medical and psychosocial support.  
Why is the question about “sex in exchange for money” in the Menace category?  
A person exchanging sex for money often has less control over sexual encounters, including which activities s/he engages in and condom use, again increasing risk. |
| **Partners**  
  • Are you sexually active?  
  • How many partners do you have currently?  
  • Have you had any new partners in the last 3 months?  
  • Do you know if your partners are monogamous (i.e., have sex only with you)?  
  • Do you know the STIs/HIV status of your partner(s)? Have you ever had any sexually transmitted infection in the past? | Why is it important to ask about sexual partners?  
Having sex with more than one partner without condoms is high-risk behavior for STIs/HIV transmission. This question provides an opportunity to educate the patient on how to protect her/himself and others against STIs/HIV. To control the spread of STIs, sexual partners must be notified and treated. |
### COMPAS + HIV Chart (cont.)

<table>
<thead>
<tr>
<th>SCREENING QUESTIONS</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activities</strong></td>
<td></td>
</tr>
<tr>
<td>• Do you have sex with men, women, or both?</td>
<td>Why is it important to ask about sexual activities, even though it can be a difficult subject?</td>
</tr>
<tr>
<td>• Do you have vaginal, anal, and/or oral sex?</td>
<td>Different sexual activities have different levels of risk for STIs/HIV transmission. For example, engaging in anal sex (when a man puts his penis into the anus of his female or male partner) carries a high risk for HIV transmission, particularly to the person in the receptive position. People who engage in oral sex (when one partner puts her/his mouth on the genitals of the other partner) may be at risk for infections of the lips, mouth, or throat. Asking these questions also provides an opportunity for the clinician to correct any misinformation the patient has about these subjects.</td>
</tr>
<tr>
<td>• Have you had risky sexual behavior recently?</td>
<td></td>
</tr>
<tr>
<td><strong>Symptoms</strong></td>
<td></td>
</tr>
<tr>
<td>• Do you have pain on urination?</td>
<td>Why is it important to ask about symptoms?</td>
</tr>
<tr>
<td>• Do you have abnormal vaginal discharge or discharge from your penis?</td>
<td>Information about the patient's symptoms helps determine if s/he might have an STI and what treatment to provide.</td>
</tr>
<tr>
<td>• Do you have genital ulcers or sores?</td>
<td></td>
</tr>
<tr>
<td>• Do you have lower abdominal pain?</td>
<td></td>
</tr>
<tr>
<td>• Do you have vaginal itching?</td>
<td>If the patient has no symptoms, how could you find out her/his level of risk for getting an STI?</td>
</tr>
<tr>
<td>• Does your newborn have eye discharge?</td>
<td></td>
</tr>
<tr>
<td>• Do you have scrotal swelling?</td>
<td></td>
</tr>
<tr>
<td>• Do you have genital warts?</td>
<td></td>
</tr>
<tr>
<td>• Do you have pain during sexual intercourse?</td>
<td></td>
</tr>
<tr>
<td><strong>HIV</strong></td>
<td></td>
</tr>
<tr>
<td>• Have you ever been tested for HIV?</td>
<td>Why must we integrate STI screening and HIV testing?</td>
</tr>
<tr>
<td>• When was the date of your last HIV test and what was the result?</td>
<td>Patients infected with STIs are at risk of contracting HIV and HIV-infected patients are at risk of contracting other STIs.</td>
</tr>
</tbody>
</table>
Creating a Comfortable Environment
Asking these screening questions is vital to helping break the cycle of STIs/HIV transmission. But some of these subjects are taboo. You and your patients might feel uncomfortable talking about them openly. To feel more comfortable, practice with others during training, ask fellow clinicians what communication techniques they use to talk to patients about these issues, always remember why asking these questions is so important, and ask them in a place where the patient can be sure no one else is listening.

### KEY POINTS

1. Screening for STIs should be part of every HIV patient encounter.
2. Screening helps to identify patients with symptoms of STIs and to evaluate their risk for contracting or transmitting STIs.
3. Screening should address each category of questions symbolized by the acronym COMPAS+HIV: Condoms and Circumcision, Menace, Partners, Activities, Symptoms and HIV.
Team Approach and Addressing Psychosocial Issues

Clinicians are part of a team comprising social workers, community health workers, pharmacists, doctors and nurses, lab technicians, and others. Team members must work together not only to treat a patient’s illness but also to address the psychosocial issues that might prevent her/him from being healthy.

The clinician screens, diagnoses, treats, educates, coordinates partner notification and treatment, and refers patients to the social worker when needed. The social worker provides individual and group counseling, educates, helps with partner notification when needed, and provides appropriate psychosocial services when needed. The community health worker refers patients to the clinic, educates, notices patient needs, and provides directly observed therapy when appropriate. The roles of team members overlap sometimes, which ensures that all the patient’s needs are met.

If team members do not communicate about the patient’s care and do not work as a team, a patient might receive only part of what is needed to treat her/his STI and the cycle of STI/HIV transmission might continue.

ACTIVITY

Task: Review the following scenario, then discuss the questions listed below with your group. Have someone in your group take notes on your discussion so your group can report back to the larger group.

Jerome is a 35-year-old man who sells goods from town to town. He comes into the clinic and tells you he has sores on his penis. He is afraid he might have AIDS. Jerome is married and has 5 children. He admits that he has casual but ongoing relationships with three women besides his wife, who each live in a different town. He is worried that if he gets sick, he won’t be able to provide for his wife and children.

1. Which team members should be involved in helping Jerome and what should be the role of each?

_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
KEY POINT

Clinicians, social workers, and community health workers must work together as a team to manage STIs and address psychosocial issues that might hinder patients from achieving and maintaining good health.
Introduction to Education and Prevention Counseling

Patient education and prevention work together: as patients understand their sexual health better, they can also take actions to prevent contracting or transmitting STIs/HIV. A patient’s behavior won’t change right away, but every patient visit is an opportunity to provide information that can influence a patient’s thinking and actions.

Patient education and prevention counseling is important because it:
- helps the patient resolve any current infections.
- helps to prevent future infections.

Patient education and prevention counseling can occur at any point during a patient encounter. It can also occur outside of the clinic, for example, when community health workers conduct home visits. All patients, whether or not they present STI symptoms, should receive education and prevention counseling.

There are two main components to education and prevention counseling: what to discuss with the patient, and why; and how to discuss it. These are covered in the next two sections.

What to Teach and Why
Consider this case:

Sandrine is a 23-year-old woman. She has been seeing her boyfriend for a year. She is fairly sure he hasn’t been with anyone else since they have been together, though they had each been with one to two partners previously. Neither has been tested for STIs or HIV. They have vaginal and oral sex and do not use condoms. Sandrine has come to the clinic because she has been having abnormal vaginal discharge for two weeks. She does not have any lower abdominal pain. She is not worried about STIs and HIV or pregnancy because her boyfriend usually withdraws before ejaculating when they have sexual intercourse.

Think about what key education and prevention messages you should discuss with Sandrine.
### Patient Education and Prevention Counseling

#### EDUCATE ON CURRENT INFECTIONS

<table>
<thead>
<tr>
<th>What</th>
<th>Why</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explain what STIs are and how they are transmitted.</td>
<td>If the patient does not understand this, s/he will be more likely to become re-infected or infect others.</td>
</tr>
<tr>
<td>Explain what the medication will do and emphasize the importance of taking it as directed.</td>
<td>Patients are more likely to follow instructions if they understand the reasons behind them. Explaining the importance of taking the medication as directed will likely increase adherence.</td>
</tr>
<tr>
<td>Thoroughly explain the potential complications if STIs are not treated.</td>
<td>STIs can have serious complications that can affect the patient’s life. Serious illness as well as infertility in men and women can result from prolonged, untreated STIs.</td>
</tr>
<tr>
<td>Make a plan for partner notification and treatment.</td>
<td>If the partner is not treated, the cycle of STI/HIV transmission will continue.</td>
</tr>
</tbody>
</table>

#### PREVENT FUTURE INFECTIONS

<table>
<thead>
<tr>
<th>What</th>
<th>Why</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify the patient’s risky behaviors that led to infection.</td>
<td>That information allows you to tailor prevention messages to the patient’s specific situation.</td>
</tr>
<tr>
<td>Discuss with the patient how to reduce her/his risk for future STIs (use condoms, practice abstinence, be faithful, choose less risky sex play).</td>
<td>This discussion helps the patient to understand the options for risk reduction and to choose the options most likely to be successful for him/her.</td>
</tr>
<tr>
<td>Remind the patient that sex without a condom increases risk of getting infected with STIs/HIV or infecting others.</td>
<td>The message cannot be conveyed too often. Condoms are an effective method for decreasing the transmission of HIV and STIs.</td>
</tr>
<tr>
<td>Review condom use and provide condoms.</td>
<td>Many patients know what condoms are but not how to use them correctly. And many patients do not have access to condoms.</td>
</tr>
<tr>
<td>Ask the patient questions about his or her life situation and relationship(s).</td>
<td>It is important to make a risk reduction plan based on each individual’s circumstance and refer to social work as needed. For example, a patient who: cannot be sure if his/her partner is faithful; exchanges sex for money or survival; experiences sexual violence.</td>
</tr>
</tbody>
</table>

#### OFFER HIV TESTING

**DRAFT**

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Explaining Risk to Patients: The Ladder of Risk

One way to think about STIs and HIV risk is as a ladder, with the riskiest behavior for infection at the top and the safest behavior at the bottom. The goal of education and prevention counseling is to help patients lower their risk, or move down the ladder.

By not engaging in sexual activity (also known as abstinence), there is no risk for STIs or HIV (outside of blood transfusions and needle pricks). Many people choose this option, both single people and those in couples. But for some, abstinence is not a realistic option.

At the top of the ladder is unprotected vaginal and anal sex. These behaviors are the riskiest because sexual intercourse without a condom can transmit STIs or HIV through semen, vaginal fluid, or blood. Vaginal and anal sex carry the highest risk of transmission.

You will notice that unprotected oral sex is a lower risk activity than unprotected vaginal or anal sex. Using protection during oral sex makes it even safer. Low-risk activities include touching your partner’s genitals and kissing. You can suggest that the patient change from high-risk sexual activity to a lower-risk one. Moving part way down the ladder is better than not moving at all.

One way to reduce risk is to have both partners be faithful. Both partners must be tested for STIs and HIV, and if found to be negative (or after STIs are treated), then both must be faithful. This is an option that many couples choose. However, this option is not realistic for patients who cannot be sure if their partner is always faithful, who wish to continue having multiple partners, who exchange sex for money, or who experience sexual violence.

(Clinician: Remember to emphasize the importance of voluntary counseling and HIV testing for every person.)
Using condoms is an excellent way to reduce the risk of STIs and HIV, but only if the condom is used correctly and during every sexual encounter.

Clinicians can use the Ladder of Risk tool to discuss risky behavior with patients (and where they are on the ladder now) and how to reduce risk to avoid future infections (how they can move down the ladder going forward).

It may feel embarrassing at first to discuss sexual activity so explicitly. However, it is extremely important that you tell patients very specific information about the safety of specific sexual activities, otherwise they may be confused and will continue having risky behavior.

**How to Do Patient Education**

It can be uncomfortable to talk about sexual issues with patients, but as clinicians it is vital for you to do so. There are some communications techniques, some tools, and some methods that will make it easier for you to do your job.

Good communication techniques help a patient feel at ease and able to describe the problem. These techniques should be used with all patients, but they are especially important when working with patients who have HIV/AIDS or who may have STIs. Good communication techniques help you create a relationship of trust with the patient, to make her/him feel comfortable enough to be able to share personal information and to ask questions.

**Good communication techniques**

- Use direct eye contact
- Show a nonjudgmental attitude
- Use simple language that the patient will understand
- Conduct the visit in a private space
- Ensure confidentiality

Use the Ladder of Risk as a tool when talking about “moving down the ladder” towards safer sexual behavior.

Another tool you can use to facilitate discussions about risky sexual behavior is the Choices-Barriers-Decisions method. The Choices-Barriers-Decisions method is used by many health professionals to structure conversations with patients about healthy sexual behaviors. It helps patients understand their choices, determine which is most realistic for them, make a decision and plan to change. It involves **identifying choices, identifying barriers, and making decisions about concrete changes to make**.

The **first step** is to help patients identify **choices**. Use the Ladder of Risk to help patients identify how risky their current behaviors are and what choices they have to reduce their risk and move down the ladder. You can address patients’ questions or misunderstandings about a particular choice on the ladder. To help patients explore their choices effectively, ask open-ended questions such as: What do you think about using condoms/being faithful/abstinence?
The second step is to help patients identify barriers in their lives that may prevent them from reducing their risk of contracting/transmitting STIs or “moving down the ladder.” Encourage patients to make a challenging change, but one that is realistic for their life and circumstances.

The third step is to help patients make decisions. Patients should decide on a concrete change to reduce their risk of contracting/transmitting STIs/HIV or “move down the ladder.” Talk with patients about exactly how they will carry out their decision by “rehearsing” the decision with them. Talk about when, where, and how they will enact their decisions, and support their decisions with encouragement. For example, if a female patient decides she wants to move down to the ladder by using condoms during every sexual encounter, you can say:

“So you’ve decided to use condoms every time. You’ve taken a very important step; using condoms is one of the best ways to protect yourself. When will you talk to your partner about your decision? What will you say to him?”

<table>
<thead>
<tr>
<th>KEY POINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Education and prevention work together: as patients understand their sexual health better, they can also take actions to prevent contracting or transmitting STIs/HIV.</td>
</tr>
<tr>
<td>2. Every encounter with a patient is an opportunity to provide education and prevention counseling about STIs/HIV.</td>
</tr>
<tr>
<td>3. Clinicians can use the Ladder of Risk to discuss risky behavior with patients (where they are on the ladder now) and how to reduce risk to avoid future infections (how can they move down the ladder going forward).</td>
</tr>
<tr>
<td>4. Use the Choices-Barriers-Decisions method to discuss the choices available to reduce their risk of STIs/HIV, the barriers that may prevent them from adopting less risky sexual behaviors and the changes that they could make to “move down the ladder of risk.”</td>
</tr>
<tr>
<td>5. Use effective communication techniques (direct eye contact, non-judgmental attitude, simple matching language, privacy, confidentiality) to create a comfortable, safe environment for patients to discuss sexual health.</td>
</tr>
</tbody>
</table>
**Condoms**

Both male and female condoms provide a barrier between the two people so that sperm, vaginal secretions, and the HIV virus cannot pass between them. Clinicians should always have condoms at hand when seeing patients and they should distribute an adequate supply to the patient to last until her/his next appointment.

**How to Use a Male Condom**

1. 
2. 
3. 
4. 
5. 
6. 
7.
How to Use a Female Condom

1. 

2. 

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4. 

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6.
Partner Notification and Treatment

As part of the comprehensive approach to the management of STIs, clinicians must not only screen, treat, and educate the patient but also make efforts to encourage the notification and treatment of partner(s) as well.

ALL partners must be treated to avoid re-infection. If partners are not notified and treated, the cycle of STI/HIV transmission will not be broken. STIs are often asymptomatic in partners but still must be treated. It is essential to create a plan for partner notification and treatment for every patient with an STI.

There are many challenges to notifying partners. Patients might be at risk for stigma and discrimination from their partners or others. They may be in danger of physical violence if their partner is notified. Financial difficulties might prevent the partner from coming to the clinic. Taboos or traditional beliefs might keep the patient from communicating with partners.

To address these challenges, explore with the patient beforehand the potential repercussions for the couple if you notify the partner. It may cause difficulties in the couple. Discuss this openly with the patient. If you anticipate problems, discuss the case with the social worker and decide on a plan of action together (especially with the social workers who have experience in counseling discordant couples).

Notification

Notification (and treatment) should be:

- **Voluntary** because clinicians cannot force a patient to tell partners and clinicians cannot tell partners without the patient’s consent.
- **Confidential** because all patient information should be confidential. In this case especially, some people may be at risk for stigma or other negative consequences if others find out about their STI diagnosis.
- **Offered/given to all of the patient’s sexual partners** when possible because notifying and treating the patient’s current partners will prevent the patient from getting re-infected after treatment. It is usually difficult to identify when the patient was infected, so it is best to notify and treat as many partners in the patient’s contact history as possible.
- **Done by the patient OR a member of the clinical team** (with the patient’s consent). Patients can notify their partners by telling their partners directly; giving their partner a card asking them to go to the clinic without a reason specified; or going with their partner to the clinic without specifying why. If patients prefer that a member of the clinical team notify their partners, suggest that the patients make appointments with the social worker to discuss notification options or that the patients ask the CHW to meet with both partners.

Notification will often bring up difficult emotions for a patient, so when you are discussing notification with a patient, the HOW should be the same as with education: simple language, nonjudgmental attitude, direct eye contact, private, and confidential.
Just as with education and prevention counseling, you can use the Choices-Barriers-Decisions method to help a patient think about partner notification:

- Explore choices – what are possible ways to inform the partner?
- Identify barriers – what barriers might get in the way of informing the partner?
- Make decisions – how will the patient and/or a member of the clinical team proceed?

What is the plan for informing the partner?

In the third step (decisions), have the patient “rehearse” the decision. This means asking the patient to consider how and when s/he will take action. You should also tell the patient:

- It is usually not possible – or important – to know which partner had an STI first.
- It is possible for many STIs to remain latent for some time, or not to show symptoms at all. So the patient or their partner could have had an STI for some time, or have an STI now, without realizing it.

Consider this case:

Petronille's Story

Petronille is a 30-year-old woman. She is married and has four children. She comes into the clinic without her husband knowing, and you diagnose her with an STI. Petronille is shocked at the diagnosis, since she is faithful to her husband. She cries and tells you she is afraid. When you ask her what she is afraid of, she says that if her husband finds out, he will be very angry.

- To help Petronille explore her choices for notifying her husband, you can ask: What do you think about asking your husband to come to the clinic with you? What do you think about having a social worker contact him?
- To help Petronille identify the barriers to notifying her husband, you can say: You said that your husband will be very angry if he finds out. How do you think he will react exactly? Do you think he might try to hurt you?
- To help Petronille make decisions about how to notify her husband, recognize that this is a very sensitive situation that should be carefully evaluated. It is essential to involve other members of the clinical team, especially the social worker(s), in these discussions.

**KEY POINTS**

1. Partner notification and treatment is essential to breaking the cycle of STIs/HIV transmission.
2. Notification should be voluntary, confidential, for ALL partners if possible, and done by the patient or a member of the clinical team.
3. The Choices-Barriers-Decisions method can be used to help a patient think about the best way to notify partners.
4. It is essential to create a plan for partner notification for every patient with an STI.
There are many different types of STIs and different ways that they manifest in patients. Symptoms of STIs that are specific to women include abnormal vaginal discharge and lower abdominal pain.

Symptoms of STIs that are specific to men include urethral discharge (discharge from the penis) and/or dysuria (pain or burning with urination); and scrotal swelling and testicular pain.

Symptoms of STIs that affect both men’s and women’s genitals include lesions/sores on the skin such as ulcers, and fluid filled vesicles; rough bumps (genital warts); and enlargement, swelling, or inflammation of the lymph nodes in the groin (buboes).

Pregnant women can pass STIs to their babies during pregnancy or birth. Examples of STIs seen in babies include conjunctivitis; herpes; and congenital syphilis.

There are eight STI syndromes (clusters of symptoms) for which the Rwandan Ministry of Health has created official treatment protocols. The STI syndromes in men are urethral discharge and scrotal swelling. In women, they are abnormal vaginal discharge and lower abdominal pain. In newborns, a major STI syndrome is conjunctivitis. In men and women, they are genital ulcers, buboes, and genital warts.
### KEY POINT

There are eight STI syndromes with treatment algorithms:

- Abnormal vaginal discharge
- Lower abdominal pain
- Conjunctivitis in the newborn
- Urethral discharge
- Scrotal swelling
- Genital ulcers
- Buboes
- Genital warts
The major STI syndromes that are specific to women include abnormal vaginal discharge and lower abdominal pain.

The lower reproductive tract includes the vulva (external genitalia), vagina, and cervix. The upper reproductive tract includes the uterus, fallopian tubes, and ovaries.

Lower reproductive tract infections affecting the vagina and cervix can spread upward through the cervix into the upper reproductive tract – through the uterus, out to the fallopian tubes toward the ovaries. When the upper reproductive tract is infected and inflamed, patients often have the feeling of lower abdominal pain, although these infections can sometimes be silent.

Vaginal discharge and lower abdominal pain can sometimes present together. It is important to ask your patient with vaginal discharge whether she also has lower abdominal pain because pain in the lower abdomen could be a sign that the STI has spread from the lower reproductive tract to the upper reproductive tract. This is more serious and requires aggressive treatment.
The official term used to describe infection in the upper reproductive tract is pelvic inflammatory disease or PID. Untreated PID can cause life-threatening complications such as a tubal abscess. PID can also cause long-term consequences such as infertility from tubal scarring and increased risk of ectopic pregnancies.

HIV-positive patients are vulnerable to serious infections such as PID. PID in HIV-positive patients can be very severe or deadly. PID qualifies as a “severe bacterial infection” listed in WHO Clinical Stage 3. A diagnosis of PID should prompt you to think about the patient’s overall HIV care and management. When a woman presents with abdominal pain and/or any visually apparent cervical abnormalities, you should also consider cervical cancer screening.
STI Syndrome of Abnormal Vaginal Discharge

Algorithm for Abnormal Vaginal Discharge (Without Speculum Exam)

Abnormal Vaginal Discharge

Take history and examine. Evaluate risk factors.

Lower abdominal pain or cervical motion tenderness?

Yes

The evaluation of risk factors is positive if:
• The patient has symptoms of urethritis.
• The patient presents at least 2 of the following factors:
  • Age < 21
  • Single
  • Two or more sexual partners
  • New sexual partner(s) in the last 3 months

No

Treat for gonorrhea, chlamydia and trichomoniasis.

1st choice:
Ciprofloxacin* 500 mg by mouth single dose.
Doxycycline** 100 mg by mouth twice a day for 7 days with meals.
Metronidazole† 2g by mouth single dose taken in the evening.

2nd choice:
Ceftriaxone 125 mg IM single dose.
Erythromycin 1g by mouth twice a day for 7 days with meals.
Tinidazole†† 2g by mouth single dose.

• Provide education and prevention counseling.
• Promote and provide condoms.
• Offer HIV testing.
• Follow-up after 7 days.

No

Use Algorithm for Lower Abdominal Pain.

Yes

Treat for bacterial vaginosis, trichomoniasis and candidiasis.

1st choice:
Metronidazole† 2g by mouth single dose in the evening with a meal.
Fluconazole# 150 mg by mouth single dose orally.

2nd choice:
Tinidazole†† 2g by mouth single dose. Clotrimazole 500 mg per vagina single dose at bedtime.

• Provide education and prevention counseling.
• Promote and provide condoms.
• Offer HIV testing.
• Follow-up after 7 days.

Refer if no improvement.

Warnings and Contraindications:

* Ciprofloxacin is contraindicated in patients < 15 years old, and pregnant women in their first trimester. Ceftriaxone is a good alternative in pregnancy.

** Doxycycline is contraindicated in patients < 7 years and pregnant or breastfeeding women; doxycycline decreases the efficacy of oral contraceptives.

† Metronidazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking metronidazole.

†† Tinidazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking tinidazole.

# Fluconazole is contraindicated in pregnancy.
UNIT 4 – A Comprehensive Approach to the Management of Sexually Transmitted Infections

The first steps in caring for a woman with vaginal discharge is to take a thorough history and do a physical exam.

When assessing a woman for vaginal discharge, ask these questions about her symptoms:

- Do you have any discharge that is heavy, clumpy, or has an odor that is fishy or abnormal for you?
- Do you have vulvar itching or irritation?
- Do you have any urinary symptoms?
- Do you have lower abdominal pain?

Ask all women with vaginal discharge about whether they also have lower abdominal pain. If they have abdominal pain, you will treat them differently and use the algorithm for lower abdominal pain.

As part of history taking, you must ask about “risk factors” that will help determine whether you diagnose a sexually transmitted versus a non-sexually transmitted disease. According to this algorithm, you should use the information from the patient’s history to decide whether to treat for a sexually transmitted versus non-sexually transmitted vaginal infection:

The patient is considered at risk for STIs if s/he presents with 2 or more of the following:

- age <21
- single
- two or more sexual partners
- new sexual partner(s) in the last 3 months

In addition to these factors on the algorithm, remember that there are many other factors in a patient’s history that may help you to determine an STI diagnosis, for example, women who engage in risky sexual behavior such as unprotected sex, women who engage in sex for survival or money, and women who experience sexual violence.

Diagnosis by symptoms and the algorithm risk factors alone is not 100% accurate. It is still important to use your clinical judgment and listen to what the patient is telling you. For example, if a patient says that she has learned that her husband has been sexually involved with two other partners recently, she would be at risk for a sexually transmitted infection (even though this risk factor is not listed on the algorithm).

When doing the initial exam for a complaint of vaginal discharge, examine external genitals for signs of discharge or changes in the skin. Some clinicians trained in speculum exam may also choose to do a speculum exam as appropriate. Lower abdominal pain or cervical motion tenderness can be assessed during the bimanual exam.

The three STIs that can cause abnormal vaginal discharge are:

- Trichomoniasis (caused by a single celled parasite called *Trichomonas vaginalis*)
- Chlamydia (caused by a bacterium called *Chlamydia trachomatis*)
- Gonorrhea (caused by a bacterium called *Neisseria gonorrhoeae*)

Non-sexually transmitted infections that can cause vaginal discharge include bacterial vaginosis (caused by various bacteria) and candidiasis (caused by a fungus).
All of the major infections that cause vaginal discharge are curable with medication, although women can become re-infected with an STI if they continue to be sexually active with a partner who remains untreated.

Because the algorithm’s power to diagnose STIs based on risk factors and symptoms alone is not 100% accurate, the patient should always have follow-up after 7 days of treatment and should be referred if there is no improvement in vaginal discharge. Counseling and education, condoms, HIV testing, treatment for partners, and abstaining from intercourse until treatment for patient and partner are complete are all a part of the essential medical care.
Algorithm for Lower Abdominal Pain

Lower abdominal pain

Take history and examine.

Presence of one of the following:
- Overdue/missed periods?
- Recent abortion?
- Abnormal vaginal bleeding?
- Pelvic mass?
- Pain and guarding on abdominal exam?
- Shock?

Cervical motion tenderness and/or abnormal vaginal discharge?

No

Refer immediately.
This is a surgical emergency. If there is a positive pregnancy test and/or suspicion for ectopic pregnancy, stabilize and refer to OB/GYN/Surgery immediately.

Yes

Treat for pelvic inflammatory disease (PID).

1st choice:
- Ceftriaxone 125 mg IM single dose.
- Doxycycline** 100 mg by mouth twice a day for 14 days with meals.
- Metronidazole† 500mg by mouth twice a day for 14 days.

2nd choice:
- Ceftriaxone 125 mg IM single dose is the standard option for coverage against gonorrhea in PID.
- Erythromycin 1g by mouth twice a day for 14 days with meals.
- Tinadazole†† 500mg by mouth twice a day for 14 days.

• Provide education and prevention counseling.
• Promote and provide condoms.
• Treat partner(s).
• Offer HIV testing.
• Follow-up after 3 days.

Improvement?

No

Refer.

Yes

• Complete treatment.
• Provide education and counseling.

Warnings and Contraindications:

* Lower abdominal pain and any visually apparent abnormalities of the cervix should also prompt you to consider cervical cancer screening.
* Ciprofloxacin is contraindicated in patients < 15 years old, and pregnant women in their first trimester. Ceftriaxone is a good alternative in pregnancy.
** Doxycycline is contraindicated in patients < 7 years and pregnant or breastfeeding women; doxycycline decreases the efficacy of oral contraceptives.
† Metronidazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking metronidazole.
†† Tinadazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking tinadazole.
# Fluconazole is contraindicated in pregnancy.
When vaginal discharge and lower abdominal pain are both present, your patient requires urgent treatment and careful consideration to determine the cause of the lower abdominal pain, which could signal a surgical emergency.

The first steps in evaluating a woman with lower abdominal pain are to take a good history and perform a physical exam. Symptoms of PID vary, but any of the following should raise suspicion of PID: lower abdominal pain, pain during intercourse, vaginal bleeding after intercourse, fever, chills, abnormal vaginal discharge, abnormal vaginal bleeding, unusually painful menses, pain on urination, and nausea and vomiting.

Examine the abdomen, do an external genital exam and a bimanual exam. On the abdominal exam, look for abdominal tenderness/pain, guarding, masses. On the external genital exam, look for quality and quantity of vaginal discharge and genital lesions. On the bimanual exam, look for cervical motion tenderness and adnexal tenderness or mass.

Danger signs that would prompt an immediate referral are: overdue or missed periods, recent abortion, abnormal vaginal bleeding, pelvic mass, pain or guarding on abdominal exam.

<table>
<thead>
<tr>
<th>ASK ABOUT</th>
<th>WHY?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overdue or missed periods</td>
<td>The patient might be pregnant. Pregnancy with lower abdominal pain could signal an ectopic pregnancy (a pregnancy growing outside of the uterus), which is a surgical emergency.</td>
</tr>
<tr>
<td>Recent abortion</td>
<td>Lower abdominal pain following recent abortion signals possible retained products of conception or intrauterine infection.</td>
</tr>
<tr>
<td>Abnormal vaginal bleeding</td>
<td>It signals a possible ectopic pregnancy, spontaneous abortion, or infection.</td>
</tr>
<tr>
<td>Look for abdominal masses</td>
<td>This signals a possible ectopic pregnancy, tubo-ovarian abscess, ovarian tumor, uterine tumor, abdominal tumor, or other abdominal problem.</td>
</tr>
<tr>
<td>Look for abdominal pain and guarding</td>
<td>These can signal an intra-abdominal emergency: ectopic pregnancy, PID-related abscess, ovarian torsion, or gastrointestinal emergency such as appendicitis.</td>
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</tbody>
</table>

If a woman with lower abdominal pain has any of these signs, she needs to be referred immediately to a facility that can provide surgical care.

If the patient has none of these signs but has abdominal pain with cervical motion tenderness or abnormal vaginal discharge, treat for PID.
Treatment for PID
When you provide treatment for PID, the medication must be active against chlamydia, gonorrhea, and anaerobic bacteria, the most common causes of PID.

In a comprehensive approach to STIs, simply treating the patient for symptoms is not enough to break the cycle of STI/HIV transmission. Education, prevention, partner notification, and treatment are also essential elements. For a woman with PID, provide the following services:

- Educate on current infection by explaining that she likely has an STI and that STIs are transmitted from an infected partner.
- Emphasize that taking medicines as directed is important to cure the infection.
- Prevent future infections by identifying the risk factors that led to infection.
- Ask the patient to return in 3 days for a follow-up visit.
- Make a plan for partner notification and treatment and follow-up to ensure that partner is treated for gonorrhea and chlamydia, and offered other STI/HIV screening.
- Advise to abstain from sex during the whole course of treatment and not resume sexual activity until the partner has also been completely treated, otherwise re-infection can occur.
- Offer testing for HIV.
- Review how to use condoms and provide a generous supply.

PID is a very serious infection, so the patient must come back to the clinic for a follow-up visit after 3 days of treatment. If the symptoms have improved, the patient should complete her treatment. If symptoms persist or have worsened, refer the patient to a facility that can provide specialized care.

**KEY POINTS**

1. Algorithms are important tools in diagnosing and treating STIs correctly.

2. If you are not already familiar with these algorithms, you do not need to memorize them. But you should keep a manual at the clinic and use the algorithms every time you examine a patient and find vaginal discharge or abdominal pain.

3. Vaginal discharge can be caused by STIs or non-STIs.

4. PID is a serious infection that can sometimes be treated in the outpatient setting, but danger signs require immediate referral.
Bimanual Exam

An easy and effective way to determine whether a woman has pelvic inflammatory disease (PID) is to perform a bimanual exam. A bimanual exam is an internal exam in which the clinician uses his or her hands to palpate the patient’s cervix, uterus, and ovaries. This exam is very helpful when PID is suspected, but you can also find other information about other potential diagnoses.

When conducting a bimanual exam, explain clearly what you are doing as you go along. Before each step, tell the patient what you are going to do next.

1. Put on gloves.
2. Lubricate the index and middle fingers that you will insert into the vagina.
3. Gently insert your index and middle fingers in the vagina until you feel the cervix.
4. Place your other hand on the patient’s lower abdomen just above the pubic bone.
5. Once your internal hand has made contact with the cervix, check for cervical motion tenderness, pain that is elicited by gently moving the cervix from side to side. In a normal exam, moving the cervix should not cause pain. Watch the response of the patient. Pain upon movement of the cervix is one of the signs of pelvic inflammatory disease (PID).
6. Palpate the uterus by putting the fingers of your internal hand into the small space beneath the cervix and push upwards. Next push down firmly and steadily with your external hand as if to “squeeze” the uterus between your two hands. Look for increased size, tenderness, or masses. The size of a normal, non-pregnant uterus is similar to the size of your fist.
7. Palpate both adnexa – a region composed of the ovary, fallopian tube, and supporting tissues – by moving your internal fingers to the side of the uterus. With the external hand pushing down, try – as before with the uterus – to squeeze the adnexa between your hands. Ovaries are small, averaging about 3 cm long x 2 cm wide x 1 cm thick. Ovaries may be difficult to palpate but even if you cannot feel them, you can still try to determine if there are obvious masses or significant tenderness. Significant tenderness may be indicative of pelvic inflammatory disease. Uterine or adnexal masses may be indicative of problems such as tubo-ovarian abscess, ectopic pregnancy, or benign or cancerous tumors. Masses require immediate referral.
8. Remove your internal hand and cover the patient.

KEY POINTS

1. PID is an infection of the upper reproductive tract.
2. The bimanual exam is an easy way to determine whether a woman has an infection in the lower reproductive tract versus PID.
3. Cervical motion tenderness – lower abdominal pain elicited by moving the cervix side to side during a pelvic exam – is one sign of PID.
Neonatal Health and STIs

Diagnosing and treating STIs is an important step toward protecting the health of mothers and their babies. STI treatment can prevent miscarriage, premature delivery, low birth weight, and illness and death in newborns.

Sexually transmitted infections can cause fetal and neonatal illness and death.

- Chlamydia passed during birth can make the baby sick with conjunctivitis, nasopharyngitis, and pneumonia.
- Gonorrhea passed during birth can make the baby sick with conjunctivitis, rhinitis, meningitis, septicemia, and other problems. Untreated gonorrhea results in “spontaneous abortions and premature deliveries in up to 35% of cases and results in perinatal death in up to 10% of cases.”
  (Source: http://www.who.int/mediacentre/factsheets/fs110/en/)
- Syphilis can cause a syphilitic syndrome in the baby, which can include failure to thrive, rash, pneumonia, bone and teeth problems, and other severe complications such as blindness, deafness, and neurologic and cardiovascular problems. In untreated syphilis infection, “25% of pregnancies result in stillbirth plus an additional 14% end in neonatal death.”
  (Source: http://www.who.int/mediacentre/factsheets/fs110/en/)
- Herpes simplex virus passed during birth can cause local infection of the baby’s skin and mucous membranes, conjunctivitis, encephalitis, and disseminated multiple organ infection in the baby. Untreated, disseminated herpes infection in the newborn is associated with very high rates of disability and death.

Conjunctivitis is an infection of the eyes. Conjunctivitis in the newborn is a major STI syndrome that you should recognize and treat in your clinical practice. The two most common bacterial STIs causing conjunctivitis in newborns are chlamydia and gonorrhea. If newborns are not diagnosed and treated early for conjunctivitis, blindness can occur.

- Chlamydia, gonorrhea, and herpes simplex virus can all cause conjunctivitis in babies.
- Chlamydia, gonorrhea, herpes simplex virus, and syphilis can all lead to blindness due to a variety of pathological processes.
- “In the absence of prophylaxis, 30% to 50% of infants born to mothers with untreated gonorrhoea and up to 30% of infants born to mothers with untreated chlamydial infection (ophthalmia neonatorum), which can lead to blindness if not treated early.”
  (Source: http://www.who.int/mediacentre/factsheets/fs110/en/)

If you see a newborn with an eye problem at any clinic visit for the mother or the baby, take a history from the mother and examine the newborn closely.
Algorithm for Conjunctivitis in the Newborn

Discharge from the eyes of the newborn

Take a history from mother. Examine the newborn.

Presence of:
- Erythema of the eyes?
- Bilateral or unilateral swelling of the eyelids?
- Purulent discharge?

No

Reassure the mother. Advise the mother to return if needed.

Yes

Treat the newborn, the mother and her partner(s) for gonorrhea and chlamydia.

For the newborn:
- Ceftriaxone 50 mg/kg IM single dose (maximum total dose 125 mg).
- Erythromycin syrup 50 mg/kg/day by mouth taken in 4 divided doses for 14 days.
- Care for the eyes using physiologic saline solution or salted boiled water that has been cooled.

For the mother:
- Ceftriaxone 125 mg IM single dose.
- Erythromycin 1g by mouth twice a day for 14 days with meals.

For partner(s) of mother:
1st choice:
- Ciprofloxacin* 500 mg by mouth single dose.
- Doxycycline** 100 mg by mouth twice a day for 7 days with meals.

2nd choice:
- Ceftriaxone 125 mg IM single dose.
- Erythromycin 1g by mouth twice a day for 7 days with meals.

• Provide education and prevention counseling.
• Promote and provide condoms.
• Offer HIV testing.
• Follow-up in 3 days.

Complete the treatment.

Improvement?

No

Refer.

Yes

Warnings and Contraindications:
* Ciprofloxacin is contraindicated in patients < 15 years old, and pregnant women in their first trimester. Ceftriaxone is a good alternative in pregnancy.
** Doxycycline is contraindicated in patients < 7 years and pregnant or breastfeeding women; doxycycline decreases the efficacy of oral contraceptives.
† Metronidazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking metronidazole.
†† Tinadazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking tinadazole.
# Fluconazole is contraindicated in pregnancy.
Signs of conjunctivitis in newborns include:

- Purulent discharge (pus) in the eye(s)
- Redness of the eye(s)
- Eyelid redness or swelling

If the baby has conjunctivitis, you should treat the baby immediately and also treat the mother and the mother’s partner(s) as soon as possible in order to stop the spread of disease and prevent re-infection. The doses and types of medications used will differ depending on whether your patient is a man, a breastfeeding woman, or a newborn. Follow the algorithm for Conjunctivitis of the Newborn for treatment recommendations.

The drug instructions for the baby are more complex because they require you to calculate the dose based on the baby’s weight. In the case of ceftriaxone administration, no matter what the baby weighs, you must never give more than 125mg total dose to the baby. As a reference point, 125mg is the total dose given to adults to treat gonorrhea, so you would never give more than this to a baby. In the case of erythromycin administration, you must calculate the total daily dose based on the baby’s weight and then divide the total daily dose into four equal parts in order to administer a dose 4 times a day (i.e., every 6 hours).

The baby needs a follow-up appointment in three days. If the baby is improving, the mother must continue giving the baby the full treatment course. If the baby is not improving, the baby needs to be referred immediately.

If you suspect that the baby is demonstrating other STI-related signs, get help to make a diagnosis and provide treatment to the baby, the mother, and the mother’s partner(s). Refer all conjunctivitis cases that are complex, are unusual, or fail to improve with treatment. Note that herpes simplex virus can also cause conjunctivitis, but a detailed discussion is outside of the scope of this unit. Babies with suspected herpes infection require urgent, intensive treatment.

Whether the conjunctivitis is found at the mother’s appointment or at the baby’s appointment, it is always an important part of medical care to provide STI and HIV education and prevention counseling, testing, and condoms to the parents.

**KEY POINTS**

1. STIs can have serious consequences for babies before, during, and after birth including conjunctivitis leading to blindness, low birth weight, premature birth, stillbirth, or death of the baby.

2. It is important to treat the woman and her partner(s) in order to avoid transmission to the baby. After birth, the baby, mother, AND her partner(s) need to be treated to avoid infection or re-infection.
Case Studies

Task: Read the case studies and answer the related questions.

CASE STUDY #1

Pelagie is a 20-year-old woman. She complains of increased vaginal discharge for one week. She denies experiencing lower abdominal pain. Her last period was two weeks ago. On the external genital exam, there are no genital lesions and a scant amount of vaginal secretions. On the bimanual exam, she does not have cervical motion tenderness or adnexal tenderness/mass. She does not have a fever. About two months ago Pelagie broke up with a boyfriend and soon after started seeing someone new. She has been sexually active with both partners. She sometimes used condoms with her old boyfriend, but has not done so with her new partner.

Questions:

1. Which algorithm will you use for this case?

_________________________________________________________________________

_________________________________________________________________________

2. What do you think Pelagie has? Why (explain your reasoning)?

_________________________________________________________________________

_________________________________________________________________________

3. How would you manage Pelagie?

_________________________________________________________________________

_________________________________________________________________________

4. What topics would you educate Pelagie about?

_________________________________________________________________________

_________________________________________________________________________

5. How might you talk to Pelagie about partner notification and treatment?

_________________________________________________________________________

_________________________________________________________________________
6. What might you say to Pelagie to encourage her to have an HIV test?

_________________________________________________________________________

_________________________________________________________________________

7. What type of follow-up would you organize for this patient?

_________________________________________________________________________

_________________________________________________________________________
CASE STUDY #2

Olive brings her five-day-old baby to the clinic, concerned about its eyes. On exam, the infant’s eyes appear red and there is unilateral swelling of the right eyelid. You can see thick yellowish secretions in the corner of the right eye. Olive’s husband, the baby’s father, left two days ago to work a tract of land that is a two-hour walk from their home.

Questions:

1. Which algorithm will you use for this case?

_________________________________________________________________________

_________________________________________________________________________

2. Does the baby have any of the symptoms that would lead to treatment?

_________________________________________________________________________

_________________________________________________________________________

3. What course of treatment would you use and whom would you treat?
   What topics would you educate Olive about?

_________________________________________________________________________

_________________________________________________________________________

4. What should you tell Olive about follow-up?

_________________________________________________________________________

_________________________________________________________________________

5. What would you say to Olive to encourage her to have an HIV test?

_________________________________________________________________________

_________________________________________________________________________

6. What could you do to help ensure that Olive’s husband, the baby’s father, receives treatment when he returns from the tract of land?

_________________________________________________________________________

_________________________________________________________________________
CASE STUDY #3

Julie is a 22-year-old woman who comes in with severe lower abdominal pain. You are called in to see her immediately because she can hardly stand due to the pain. She doesn’t remember when she last had a normal menstrual period, but she has always had irregular bleeding since she started the contraceptive Depo-Provera (medroxyprogesterone acetate injectable suspension) one year ago. Two months ago, she missed her appointment to receive her regular shot because she hasn’t been feeling very well and it is a long walk to the clinic. When asked if she is sexually active, she admits to working as a sex worker and having hundreds of sexual contacts over the last few years. The external genital exam is unremarkable. The abdominal exam shows right lower quadrant pain. On the bimanual exam, she has a lot of yellow vaginal discharge, cervical motion tenderness, and right-sided adnexal tenderness. Assessing for a mass was difficult because Julie’s abdomen became tense and hard and she repeatedly pushed your hand away when you tried to examine the right side.

Questions:

1. Which algorithm would you use?

_________________________________________________________________________
_________________________________________________________________________

2. What danger signs does Julie have?

_________________________________________________________________________
_________________________________________________________________________

3. What would be your top diagnosis or diagnoses for Julie? What other diagnoses should be considered?

_________________________________________________________________________
_________________________________________________________________________

4. How would you treat Julie?

_________________________________________________________________________
_________________________________________________________________________

5. What type of follow-up would you organize for this patient?

_________________________________________________________________________
_________________________________________________________________________
Jeminah is a 35-year-old woman. She consulted at the health clinic for abnormal vaginal discharge about 1 month ago. The clinician prescribed a vaginal cream for a yeast infection, which she applied as directed, but it did not resolve the problem. One week ago, she started feeling discomfort in her lower abdomen. She denies fever, pain on urination, or genital lesions. She is not suffering from any other health problems. She has had one sexual partner since the death of her husband 6 months ago and they did not use condoms. She does not know her HIV status. She has three children. She is uncertain about the date of her last menstrual period but does not believe she is pregnant. She does not use any other type of contraception.

The physical exam reveals the following:

- Temp 38°C, HR 80, BP 104/72, RR 12
- Abdomen soft; no guarding, no rebound tenderness or masses.
- External genital exam shows normal looking vulva, small amount of vaginal discharge.
- On bimanual exam, the patient jumps when her cervix is moved; no adnexal masses are felt.
- Urine pregnancy test is negative.
- HIV test is positive.

Questions:

1. Which algorithm will you use for this case?
   ____________________________________________________________
   ____________________________________________________________

2. Does Jeminah have any risk factors for a serious pelvic condition?
   ____________________________________________________________
   ____________________________________________________________

3. What should you treat Jeminah for? Why?
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

4. Does Jeminah need to be referred?
   ____________________________________________________________
   ____________________________________________________________
5. Which treatment course would you choose for Jeminah?

_________________________________________________________________________
_________________________________________________________________________

6. What topics would you educate and counsel Jeminah about?

_________________________________________________________________________
_________________________________________________________________________

7. What are some options for notifying Jeminah’s partner?

_________________________________________________________________________
_________________________________________________________________________

8. What other actions would you take based on the psychosocial information in the case?

_________________________________________________________________________
_________________________________________________________________________

KEY POINTS

1. Algorithms are important tools in diagnosing and treating STIs correctly.

2. If you are not already familiar with these algorithms, you do not need to memorize them. But you should keep a manual at the clinic and use the algorithms every time you examine a patient and find vaginal discharge or abdominal pain.

3. In addition to using algorithms, you must screen and take a sexual history using COMPAS as a guide, coordinate with other team members, counsel the patient and prepare for partner notification and treatment, and offer HIV testing.
STIs symptoms in men typically start in the urethra, where they cause inflammation called urethritis.

Some of the common symptoms associated with urethritis include urethral discharge, pain on urination, frequency of urination, or a feeling of itching or burning in the urethra.

The most common causes of urethritis are chlamydia and gonorrhea, and, these two infections often occur together. Trichomoniasis can also cause urethritis, but this is less common. Chlamydia, gonorrhea, and trichomoniasis are all sexually transmitted infections.

Non-sexually transmitted urethritis can also occur in men, but it is less common and outside of the scope of this unit. The patient should be referred for unusual presentations of urethritis, when STI infection is extremely unlikely, or when symptoms do not improve with treatment.
Urethritis and scrotal swelling can present together. Always ask about scrotal discomfort when a patient presents with urethritis because if an STI goes untreated, the infection can ascend via the vas deferens to the epididymis (causing epididymitis) and, occasionally, the testis (causing orchitis). Patients with these conditions will present most frequently with unilateral testicular pain and/or swelling. Long-term sequelae include scarring of the vas deferens, which can lead to infertility.

Testicular pain and/or swelling may mean the patient has an STI, but it is important to rule out other potential diagnoses. Other causes of testicular pain or swelling that you should recognize include testicular torsion, testicular trauma, testicular cancer, and inguinal hernias.

If testicular pain and/or swelling is present, testicular torsion could be the cause. In testicular torsion, the testicle twists on the spermatic cord, cutting off blood supply to the testicle. This may occur during direct trauma, during exercise or sexual activity, or spontaneously. Typically, with testicular torsion the pain is severe and the onset is sudden. Testicular torsion is a surgical emergency and must be referred immediately for a surgical evaluation. The testicle can become non-viable due to lack of oxygen-rich blood, and risk for loss of the testicle increases if the surgical evaluation is delayed.

Testicular pain due to accidental injury should also be referred.

Testicular cancer can occur in adolescent, adult, and older adult males. If the patient gives a history of a lump on the testes, or complains of swelling and aching in the scrotum, the patient may have testicular cancer. Patients who do not respond to antimicrobial treatment or who present with a lump on the testicle should be referred. In testicular cancer, a mass or swelling may be present, but it is often painless.

Inguinal hernias occur when there is a weakness in the abdominal wall and the intestines move down the inguinal canal toward and sometimes into the scrotum. The patient may present with discomfort and a bulge in the groin area (not to be confused with a bubo). The patient may also present with discomfort and bulging in the scrotum, not to be confused with swelling due to infection. Refer emergently if the bulge does not go away when he lies down and he is having significant pain and/or fever. If the intestine gets stuck it will lose oxygen and die.

**KEY POINTS**

1. Chlamydia and gonorrhea are STIs whose main symptoms in men are urethral discharge and a burning sensation during urination.
2. Untreated, chlamydia and gonorrhea can lead to more serious problems such as epididymitis, orchitis, and infertility.
3. Your goal as a clinician is to detect, diagnose, and treat STIs as early as possible and refer as needed for other causes of urethritis and scrotal swelling.
Managing Urethral Discharge and Scrotal Swelling

**Algorithm for Urethral Discharge in Male Patients**

1. **Urethral discharge and/or dysuria**
   - Take history and examine.
   - Milk urethra if necessary.

2. **Presence of urethral discharge and/or dysuria?**
   - Yes
     - **Treat for gonorrhea and chlamydia.**
       - **1st choice:**
         - Ciprofloxacin* 500 mg by mouth single dose.
         - Doxycycline** 100 mg by mouth twice a day for 7 days with meals.
       - **2nd choice:**
         - Ceftriaxone 125 mg IM single dose.
         - Erythromycin 1g by mouth twice a day for 7 days with meals.
       - Provide localised care.
       - Provide counseling.
       - Promote and provide condoms.
       - Treat partner(s).
       - Offer HIV testing.
       - Follow-up in 7 days.

     - **Improvement?**
       - Refer.

   - No
     - Take history and examine.
     - Milk urethra if necessary.

3. **Urethral discharge and/or dysuria?**
   - Yes
     - **Symptoms persist despite good adherence?**
       - No
         - Cured.
         - Counseling.
       - Yes
         - **Treat trichomoniasis.**
           - **1st choice:**
             - Metronidazole† 2g by mouth single dose.
           - **2nd choice:**
             - Tinidazole†† 2g by mouth single dose.
           - Provide counseling.
           - Promote and provide condoms.
           - Treat partner(s).
           - Offer HIV testing.

4. **Improvement?**
   - No
     - Refer.
   - Yes
     - Cured.
     - Counseling.

**Warnings and Contraindications:**

* Ciprofloxacin is contraindicated in patients < 15 years old, and pregnant women in their first trimester. Ceftriaxone is a good alternative in pregnancy.
** Doxycycline is contraindicated in patients < 7 years and pregnant or breastfeeding women; doxycycline decreases the efficacy of oral contraceptives.
† Metronidazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking metronidazole.
†† Tinidazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking tinidazole.
# Fluconazole is contraindicated in pregnancy.
Algorithm for Scrotal Swelling

1. **Scrotal swelling**

2. **Take history and examine.**

3. **Presence of scrotal swelling or pain on palpation of testes?**
   - Yes
     - **Suspicion for testicular torsion?**
       - (Sudden-onset, severe pain, possibly accompanied by a history of recent direct physical trauma, or current physical exam finding of a markedly elevated testicle.)
       - **Treat gonorrhea and chlamydia.**
         - **1st choice:**
           - Ciprofloxacin* 500 mg by mouth single dose.
           - Doxycycline** 100 mg by mouth twice a day for 7 days with meals.
         - **2nd choice:**
           - Ceftriaxone 125 mg IM single dose.
           - Erythromycin 1g by mouth twice a day for 7 days with meals.
         - • Provide counseling.
         - • Promote and provide condoms.
         - • Treat partner(s).
         - • Offer HIV testing.
         - • Follow-up in 7 days or sooner as needed.

   - No
     - **Refer urgently to health facility with surgical services.**

8. **Improvement?**
   - No
     - **Refer.**
   - Yes
     - • Continue treatment.
     - • Provide counseling.
     - • Promote and provide condoms.

**Warnings and Contraindications:**
* Ciprofloxacin is contraindicated in patients < 15 years old, and pregnant women in their first trimester. Ceftriaxone is a good alternative in pregnancy.
** Doxycycline is contraindicated in patients < 7 years and pregnant or breastfeeding women; doxycycline decreases the efficacy of oral contraceptives.
† Metronidazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking metronidazole.
†† Tinadazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking tinadazole.
# Fluconazole is contraindicated in pregnancy.
When assessing for urethral discharge and scrotal swelling, there are three main questions you can ask:

- Do you have discharge from your penis?
- Do you have any pain on urination?
- Do you have testicular pain and/or swelling?

If a man presents with any of these symptoms, perform a physical exam. Do an external genital exam. Look for urethral discharge, testicular swelling, signs of testicular torsion or trauma, elevated testicles, and genital lesions. Generally, also look for rash on hands, feet, and chest.

To assess if a man has urethral discharge, examine the penis. If necessary, ask the patient to strip the urethra by squeezing the penis from the base of the penis to the glans.

If urethral discharge is present on exam and/or the patient complains of discomfort with urination, treat for chlamydia and gonorrhea. They are the most common causes of urethritis in men.

The next step is to follow up with the patient in 7 days to monitor whether the symptoms persist. It’s important to check whether the treatment has been effective. The end goal is to break the cycle of STI transmission by curing the infection. It is also an opportunity to follow up on partner notification and treatment.

If the patient returns in 7 days and his symptoms have not improved, the problem could be a re-infection, poor adherence to treatment or ineffective treatment.

- If you suspect re-infection RE-TREAT.
- If you suspect that the patient has not been adherent to treatment RE-TREAT AND involve the social worker and CHW for adherence monitoring.
- If you don’t suspect re-infection or poor adherence TREAT for trichomoniasis with metronidazole per the urethral discharge algorithm.

In the event that the patient’s symptoms do not improve after treatment for chlamydia and gonorrhea, treat for trichomoniasis because it is the next likeliest cause of these symptoms after chlamydia and gonorrhea. Organize a follow-up visit after 7 days to monitor whether the treatment has been effective. If metronidazole also fails to resolve the problem, refer the patient to a facility where experts and laboratory testing are available.

If a patient presents with scrotal pain and/or swelling, consider STIs, testicular torsion, testicular cancer, and inguinal hernia. Patients with testicular torsion will typically show distress consistent with severe pain and will often, but not always, have an elevated and rotated testicle in testicular torsion. Patients with testicular trauma give a history of injury.

If you find evidence of testicular torsion or trauma on exam, refer urgently to a facility with surgical services.

If a patient presents with a painful testicle but no signs of testicular torsion or trauma, the patient may have epididymitis or orchitis caused by an STI. Treat for chlamydia and gonorrhea according to the algorithm for scrotal swelling.
In a comprehensive approach to STIs, simply treating the patient for his symptoms is not enough to break the cycle of STI/HIV transmission. Education, prevention, and partner notification and treatment are also essential elements.

- Educate on current infection by explaining that he likely has an STI and that STIs are transmitted from an infected partner.
- Emphasize that taking medicines as directed is important to cure the infection.
- Advise to abstain from sex for at least 7 days and do not resume sexual activity until the partner has completed treatment.
- Ask the patient to return in 7 days for follow-up.
- Make a plan for partner notification and treatment and follow-up to ensure that partner is treated, as well as offered screening for other STIs/HIV.
- Prevent future infections by identifying the risk factors that led to infection.
- Discuss how to reduce risk to avoid future infections using C-B-D and ladder tools.
- Remind the patient that sex without a condom increases risk of getting infected with STIs/HIV or infecting others; review condom use and provide condoms.
- Offer HIV testing.

### KEY POINTS

1. The STIs chlamydia and gonorrhea are common causes of urethral discharge, pain on urination, and scrotal swelling and discomfort in men. The first approach to these symptoms is to treat the patient with medications that are active against chlamydia and gonorrhea.

2. Scrotal pain and swelling are not always caused by STIs and can signal a surgical emergency or other serious problem.
Case Studies

Task: Read the case studies and answer the related questions.

CASE STUDY #1

Aimable is a 30-year-old man who complains of unusual discharge from his penis and pain on urination. On exam, after milking the penis, purulent discharge is visible. There are no lesions in the genital or groin area. There is no testicular pain or swelling.

Aimable works as a teacher in a distant part of the province and visits home every two months. His only sexual partner is his wife, and they engage in exclusively penile-vaginal sex. They do not use condoms, although his wife uses contraceptive pills for family planning. He has not been tested for HIV.

Questions:

1. What do you think Aimable has? Why?
   __________________________________________________________________________
   __________________________________________________________________________

2. Which treatment course would you prescribe?
   __________________________________________________________________________
   __________________________________________________________________________

3. What would you do if his symptoms did not improve after 7 days of treatment?
   __________________________________________________________________________
   __________________________________________________________________________

4. What key education and prevention messages would you discuss with Aimable?
   __________________________________________________________________________
   __________________________________________________________________________

5. How would you talk to Aimable about partner notification and treatment?
   __________________________________________________________________________
   __________________________________________________________________________
CASE STUDY #2

Ernest is a 13-year-old adolescent who comes to the clinic accompanied by his mother complaining of testicular pain. He noticed the pain began while playing soccer with friends. On examination the right testicle is elevated. He is vomiting and in too much pain to answer any questions about his sexual history.

Questions:

1. What do you think he has? Why?
   
   ________________________________________________________________
   ________________________________________________________________

2. What would you do with this patient?
   
   ________________________________________________________________
   ________________________________________________________________

6. What might you say to Aimable to encourage him to have an HIV test?
   
   ________________________________________________________________
   ________________________________________________________________
CASE STUDY #3

Steven is a 19-year-old school teacher who comes to the health center a second time for pain on urination and intermittent, mild urethral discharge. He had his first sexual experience a year ago when his friends brought him to a sex worker when he was 18 years old. He had unprotected sex and shortly after began to have the symptoms he is currently having. He was seen at your clinic by another clinician a month ago who treated him with doxycycline and ceftriaxone. An HIV test was negative. He is back today because this treatment did not improve his symptoms. He denies any other sexual experiences since his last visit to the clinic and has not noticed any lesions in his genital or groin area. On exam, you notice that he has only mild urethral discharge.

Questions:

1. What do you think Steven has? Why?
   ____________________________________________________________
   ____________________________________________________________

2. How would you treat him?
   ____________________________________________________________
   ____________________________________________________________

3. What if he doesn’t get better with this treatment?
   ____________________________________________________________
   ____________________________________________________________

4. What key education and prevention messages would you discuss with Steven?
   ____________________________________________________________
   ____________________________________________________________
Emmanuel is a 40-year-old man who complains of constant, low-grade pain in his testicle. He does not report any other health problems. It is his first visit to the clinic, and he has not been tested for HIV. Emmanuel has been married to his wife for almost twenty years. They have six children and the three youngest still live with the family. The youngest boy and girl are in primary school but the older girl works in the home and in the fields.

About a year ago Emmanuel started seeing a widow in another village. He confides that the widow recently told him that her husband died from a long wasting illness. Aside from a few sexual encounters with casual partners early in his marriage, his wife and the widow have been his only sexual partners. They have engaged in penile-vaginal sex exclusively and have never used condoms.

Emmanuel’s family lives in a small mud brick home. He and his wife and daughter farm a parcel of land and also have a few goats. Selling goat milk from time to time provides a small income for basic necessities.

The physical exam reveals the following:
- Temp 38°C, HR 90, BP 104/72, RR 16
- Scrotal swelling more on the right
- No elevated testis, no evidence of trauma
- No urethral discharge, no genital lesions

Questions

1. What do you think Emmanuel has? Why?

_________________________________________________________________________
_________________________________________________________________________

2. Should you refer this patient?

_________________________________________________________________________
_________________________________________________________________________

3. What should you treat for and what medication would you prescribe?

_________________________________________________________________________
_________________________________________________________________________
4. What are some key education and prevention messages you should discuss with Emmanuel?

_________________________________________________________________________

_________________________________________________________________________

5. What are some options for partner notification?

_________________________________________________________________________

_________________________________________________________________________

**KEY POINTS**

1. Algorithms are an essential tool for diagnosing and treating STIs correctly.

2. If you are not already familiar with these algorithms, you do not need to memorize them. But you should keep a manual at the clinic and use the algorithms every time you examine a male patient with urethral discharge or testicular pain and/or swelling.

3. In addition to using algorithms, you must screen and take a sexual history using COMPAS as a guide, coordinate with other team members, counsel the patient, prepare for partner notification and treatment, and offer HIV testing.
Some STIs manifest as genital ulcers and buboes. Genital ulcers and buboes affect both men and women, and the symptoms are similar in both men and women. Bubo is a term that describes a swelling of the lymph nodes in the groin. There are two algorithms, one algorithm to show the appropriate care for patients who present with genital ulcers only, and another algorithm to show the appropriate care for patients who present with buboes only.

The three major diseases that cause genital ulcers are herpes, syphilis, and chancroid.

Although this information does not appear in the algorithms, other STIs can also cause genital ulcers. These STIs include lymphogranuloma venereum (also known as LGV) and granuloma inguinale (also known as Donovonosis). Granuloma inguinale is less common and will not be covered in detail in this unit. Granuloma inguinale can cause painless ulcers similar to syphilis and might be suspected if the patient presents with beefy red ulcers that bleed easily and do not resolve after following the treatment recommendations from the algorithm for genital ulcer(s). Although rare, genital skin cancer can also occur and may result in non-healing or unusual lesions. As with any unusual or non-healing ulcers, consult an experienced clinician for help.

The two major diseases that cause inguinal buboes are chancroid and lymphogranuloma venereum (LGV).

Herpes is caused by a virus, but all of the other STIs that cause genital ulcers and buboes are caused by bacteria. Sexually transmitted viruses such as HIV and herpes cannot be cured. Clinicians can provide medication that will suppress viruses and make people feel better. All of the other STIs causing ulcers and buboes are curable with antibiotics.
The links between HIV and ulcerative genital disease are important and complex. With ulcerative genital disease, the genital skin is not intact, which increases the risk for acquiring HIV. People with genital ulcerative diseases are sometimes co-infected with HIV, and all patients with a genital ulcerative disease should be tested for HIV if their status is unknown. Genital ulcers in an HIV-positive patient can also shed HIV, increasing the risk of HIV transmission to a sexual partner.

Even with suppressive treatment, HIV-positive patients in particular are more likely to continue to shed the herpes virus. As always, counseling and teaching condom use are an important part of the comprehensive approach.

HIV-positive patients are vulnerable to more severe or complicated presentations of ulcerative genital diseases and should be closely followed for recovery. If your patient has unusual complications or is not healing as quickly as you would expect, refer the patient, as s/he may need a longer treatment course, different treatment course, or additional medical attention.

Herpes Simplex Virus, Syphilis, Chancroid, and LGV

Herpes

Cause:
- Herpes Simplex Virus 1 (HSV 1)
- Herpes Simplex Virus 2 (HSV 2)
- HSV 1 and HSV 2 can both infect the mouth or genitals

Symptoms:
- Infection occurs days to two weeks after exposure. Some patients have no primary symptoms of infection.
- Primary outbreak: flu-like symptoms – fever, chills, headache, body ache. Tingling, burning, or itching on the skin followed by small vesicles on mucous membrane of genitals or mouth and/or surrounding areas. Vesicles burst and form painful sores, then dry and scab in 2–3 weeks.
- Recurring outbreaks: Tingling, burning, or itching on the skin followed by small vesicles on genitals that burst and form painful sores, then dry and scab in 1–2 weeks. Tend to be less severe than first outbreak.
- Some people carry HSV, but show no symptoms.

Treatment:
- No cure.
- Outbreaks can be suppressed, but not cured, with antiviral drugs active against HSV.
- Treatment can be given either during a symptomatic outbreak or as daily suppressive therapy to prevent outbreaks.
Patient education:

- Provide specific information about HSV as above and general information and counseling regarding STIs, HIV, and condoms. Patients can transmit HSV even when there are no visible lesions.

Special considerations:

- Pregnant women require special consultation to prevent mother-to-child transmission of HSV using suppressive antiviral herpes treatment during pregnancy and/or Cesarean delivery. At the time of labor, a vaginal inspection should be done and Cesarean delivery should be done if herpes lesions are visible or if the patient reports typical prodromal symptoms such as vulvar burning and pain.

Syphilis

**Cause:** *Treponema pallidum* bacterium

**Symptoms and stages:**

Stage 1: Clinical signs of infection 2–3 weeks after exposure:
- 1–2 cm genital ulcer, painless, self-healing in 3–6 weeks.
- Some patients unaware, and symptoms sometimes not outwardly visible if ulcers on cervix or in rectum.
- Some patients have no primary symptoms of infection.

Stage 2: Weeks to months later, approximately one-third of patients experience:
- Fever, general ill feeling, joint pain
- Diffuse lymphadenopathy
- Rash on palms and soles of feet
- Grey-white patches where ulcer was that may resemble warts and are called condylomata lata

Stage 3: Latent Syphilis
- No symptoms.
- *Treponema pallidum* is present and the syphilis screening test (rapid plasma reagin (RPR)) is positive.
Stage 4: Tertiary Syphilis, 1–30 years later, 40% of cases develop one or more:
- Cardiovascular syphilis (the most commonly symptomatic organ system): aortic aneurism and valve disease
- Neurosyphilis: very broad range of symptoms possible, including trouble walking and stabbing pain; poor mental functioning; psychiatric illness; lack of coordination; blindness; headache; numbness; paralysis
- Tertiary syphilis can affect any organ, but major issues can include lesions of the bones, skin, and liver

Treatment:
- Antibiotics

Patient education:
- Provide specific information about syphilis as above and standard information and counseling regarding STIs, HIV, condoms, abstinence during treatment.
- Active case-finding and treatment is very important for the patient’s partner(s).

Special considerations:
- Syphilis is a complicated disease because it has many different stages, and can present as many different things. But remember, the treatment is relatively simple and very effective. If you suspect that your patient has an advanced stage of syphilis, additional care and more than single dose administration may be required based on your patient’s specific presentation.

Left: Primary stage syphilis – syphilitic chancre of the penis and vulva
From: Health Awareness Connections (www.healthac.org)

Center: Secondary syphilis- rash on palms and feet
From: Seattle STD/HIV Prevention Training Center
Source: Connie Celum, Walter Stamm

Right: Secondary syphilis – Condylomata lata on penis
Source: Dr. John Toney, Southeast STD/HIV Prevention Training Center

Chancroid

Cause: *Haemophilus ducreyi* bacterium

Symptoms:
- Pustules (pus-filled bumps) on skin 4–10 days after infection
- Pustules rapidly erode into a 1–2 cm painful genital ulcer
- Borders ragged, sometimes undetermined, base is erythematous and covered by exudates
• Painful, tender lymph nodes in the groin (buboes)
• Unilateral

Treatment:
• Antibiotics
• Refer to the minor surgery department in the case of buboes

Patient education:
• Provide specific information about chancroid as above and standard information and counseling regarding STIs, HIV, condoms, abstinence during treatment.
• Active case-finding and treatment is very important for the patient’s partner(s).

Special considerations:
• An ulcer caused by chancroid is painful, whereas the ulcers of syphilis are painless. Unfortunately, this isn’t always 100%, so you will see in the algorithm that we are about to do that we often treat for both of them when a patient has an ulcer.
• Notice also that chancroid is one of the STIs that can cause both genital ulcers and buboes.

Lymphogranuloma Venereum (LGV)

Cause: Chlamydia trachomatis Serovars L1-3

Symptoms and stages:
Stage 1: 3–30 days later
• Genital ulcer or mild inflammation in genitals, heals in a few days

Stage 2: 2–6 weeks later
• Infection travels upward and forms buboes.
• Inguinal lymph nodes swell, become pus-filled, erythematous, warm.

Stage 3: Late infection
• Fibrosis and strictures of inguinal lymph nodes sometimes leading to elephantiasis and infertility
Anorectal syndrome (in male and female patients who engage in receptive anal sex):

- Rectal bleeding and pain
- Fever
- Urgency in defecation
- Serious damage to rectal tissue (if not treated)

**Treatment:**
- Antibiotics
- Refer to the minor surgery department in the case of buboes

**Patient education:**
- Provide specific information about LGV as above and standard information and counseling regarding STIs, HIV, condoms, abstinence during treatment.
- Active case-finding and treatment is very important for the patient's partner(s).

**Special considerations:**
- Lymphogranuloma venereum (LGV) is another disease that can sometimes present with an ulcer, but also causes buboes.

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**ACTIVITY**

**Key Questions:**

1. What are the key signs and symptoms for this disease that you would see during the physical exam, or that the patient would complain of?

_____________________________________________________________________________
_____________________________________________________________________________

2. Who in your group has seen, diagnosed, and/or treated this disease? Based on the group's experience and the information in the participant manual, what are the signs and symptoms that would help you make a diagnosis because they are unique to this disease?

_____________________________________________________________________________
_____________________________________________________________________________

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**KEY POINTS**

1. Major STIs causing genital ulcers include herpes, syphilis, and chancroid. Granuloma inguinale and LGV are less common causes.

2. Major STIs causing buboes include chancroid and LGV.

3. Refer in the case of unusual or non-healing genital lesions.
Managing Genital Ulcers

Algorithm for Genital Ulcer(s)

- Genital ulcer(s)
  - Take history and examine.
  - Presence of one or more genital ulcers or vesicles?
    - Yes
      - Vesicles or small lesions with history of recurrence?
        - Yes
          - • Treat genital herpes with Acyclovir.
            - For initial outbreak: Acyclovir 400mg by mouth three times a day for 7 days.
            - For recurrences: Acyclovir 400mg by mouth three times a day for 5 days.
            - For severe lesions with HIV-coinfection: Acyclovir 400mg by mouth three to five times a day until remission.
          - • Treat for syphilis and chancre.
            - 1st choice: Benzathine Benzyl Penicillin 2.4 million units IM single dose (dose is large, so usually it is given at two sites). Ceftriaxone 250 mg IM single dose.
            - Alternative for penicillin-allergic non-pregnant patients: Erythromycin 1g orally twice a day for 14 days with meals. (If treated with erythromycin, follow-up care of the baby and mother after pregnancy is required as the effectiveness of erythromycin is highly questionable.)
            - alternative for penicillin-allergic pregnant patients: Erythromycin 1g orally twice a day for 14 days with meals. (If treated with erythromycin, follow-up care of the baby and mother after pregnancy is required as the effectiveness of erythromycin is highly questionable.)
              - • Provide localized care.
              - • Provide counseling.
              - • Promote and provide condoms.
              - • Treat partner(s).
              - • Offer HIV testing.
              - • Follow-up after 7 days.
          - • Treat for syphilis: Benzathine Benzyl Penicillin 2.4 million units IM single dose (dose is large, so usually it is given at two sites).
            - • Provide localized care.
            - • Provide counseling.
            - • Promote and provide condoms.
            - • Treat partner(s).
            - • Offer HIV testing.
            - • Follow-up after 7 days.
            - Improvement?
              - No
                - Refer.
              - Yes
                - • Provide counseling.
                - • Promote and provide condoms.
            - No

Warnings and Contraindications:

* Ciprofloxacin is contraindicated in patients < 15 years old, and pregnant women in their first trimester. Ceftriaxone is a good alternative in pregnancy.
** Doxycycline is contraindicated in patients < 7 years and pregnant or breastfeeding women; doxycycline decreases the efficacy of oral contraceptives.
† Metronidazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking metronidazole.
†† Tinadazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking tinadazole.
# Fluconazole is contraindicated in pregnancy.
At every visit, every patient should be screened for genital ulcers. Ask: “Have you noticed any skin changes in your genital area?”

If a patient reports genital ulcers, the next step is to perform a physical exam to see what type of genital ulcer the person may have. The physical exam is a very important part of the diagnostic process and should never be skipped.

Every baseline physical exam should include a basic visual exam of the external genitalia. Look for genital ulcers, vesicles, genital warts, inguinal buboes, and any other sign of other STIs (such as abnormal vaginal discharge). Palpate the inguinal lymph nodes with gloved hands. A speculum exam can also be performed to look for vaginal lesions or cervical lesions in women (this should only be performed by a trained clinician). Also look for rash on hands, feet, and chest.

Vesicles are filled with fluid and typical of a herpes infection. A herpes simplex virus (HSV) infection typically starts with clusters of vesicles that progress to ulceration within a few days. The algorithm for genital ulcers also recommends treatment for herpes using acyclovir and treatment for syphilis using benzathine benzyl penicillin unless contraindicated.

A follow-up visit is recommended 7 days after the initial visit. If the lesions have not improved after 7 days of treatment, consider referring for more specialized care from an experienced clinician, including extending the treatment and increasing the dose given.

**Herpes simplex virus is not curable.** Like HIV, once a person is infected with HSV, s/he remains infected with HSV for life. Herpes outbreaks can recur. Treating herpes with acyclovir provides symptomatic relief and temporary suppression of the virus. In the case of very severe and frequently recurring outbreaks, chronic suppressive therapy can be given in order to decrease the number of outbreaks and decrease viral shedding.

Key education and prevention messages to discuss with a patient with HSV:

1. Educate on current infection by explaining that s/he has an STI and that STIs are transmitted from an infected partner.
2. Emphasize that taking medicines as directed will help to control the symptoms, but will not cure the virus.
3. Advise to abstain from sex whenever lesions are present.
4. Educate that the virus can be transmitted even when symptoms are absent.
5. Ask the patient to return in 7 days for follow-up.
6. Make a plan for partner notification and treatment. You do not need to automatically give the antiviral herpes drug treatment to the partner, unless the partner is infected and desires symptomatic relief. However, other aspects of screening and treatment should still be done for the partner.
7. Prevent future infections by identifying the risk factors that led to infection; discuss how to reduce risk to avoid future infections using C-B-D and ladder tools; remind the patient that sex without a condom increases risk of getting infected with STIs/HIV or infecting others.
8. Review condom use and provide condoms.
9. Offer HIV testing.
Treat a patient who presents with a genital ulcer or ulcers which do not have a history of recurrence and which did not start as vesicles for syphilis and chancroid according to the algorithm for genital ulcers.

A follow-up visit is recommended 7 days after the initial visit. If the ulcer(s) have not improved after 7 days of treatment, consider re-treating the patient if s/he did not adhere to treatment, otherwise, refer her/him for further care.

If the ulcer is not improving, it might be another STI that is more difficult to treat, such as granuloma inguinale, also known as Donovanosis, or some other skin lesion such as skin cancer. In addition, it could be an organism that is resistant to the medicines already tried, and needs to be either cultured or treated with a new set of medications.

**KEY POINTS**

1. The algorithm on genital ulcers shows how to diagnose and treat herpes, syphilis, and chancroid.
2. The treatment for herpes infection controls the symptoms but does not cure herpes.
3. Correct administration of antibiotics can cure syphilis and chancroid infection.
4. Refer all ulcers that do not respond to treatment.
Managing Inguinal Buboes

Algorithm for Inguinal Buboes

Inguinal buboes

Take history and examine.

Presence inguinal buboes?

Yes

Treat for lymphogranuloma venereum and chancroid.

1st choice:
Doxycycline** 100 mg by mouth twice a day for 14 days with meals.
Ciprofloxacin* 500 mg by mouth twice a day for three days.

2nd choice:
Erythromycin 1g by mouth twice a day for 14 days with meals.
Ceftriaxone 250 mg IM single dose.

• Provide counseling.
• Promote and provide condoms.
• Treat partner(s).
• Offer HIV testing.
• Follow-up after 3 days.

Yes

Improvement?

No Refer.

Yes

• Continue treatment.
• Provide counseling.
• Promote and provide condoms.

Warnings and Contraindications:

* Ciprofloxacin is contraindicated in patients < 15 years old, and pregnant women in their first trimester. Ceftriaxone is a good alternative in pregnancy.
** Doxycycline is contraindicated in patients < 7 years and pregnant or breastfeeding women; doxycycline decreases the efficacy of oral contraceptives.
† Metronidazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking metronidazole.
†† Tinidazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking tinidazole.
# Fluconazole is contraindicated in pregnancy.
Inguinal buboes are swelling and inflammation of the inguinal lymph nodes. Buboes will appear as lumps underneath the skin in the groin. There are two STIs that can cause inguinal buboes, chancroid and lymphogranuloma venereum (also known as LGV). When you see buboes in your practice, you will be treating for these two diseases.

Chancroid can cause genital ulcers, but it can also cause buboes. LGV can also cause self-limited ulceration, but some patients with LGV do not notice any ulceration at all and present only with buboes. When you see inguinal buboes, this is always a clear indication to treat both chancroid and LGV.

The first step in caring for a patient for inguinal buboes is to gather a thorough patient history and discuss the patient’s recent sexual activity.

To diagnose inguinal buboes, do a focused STI physical exam including checking for genital discharge, skin changes, and ulceration, PLUS palpating the inguinal lymph nodes with a gloved hand. You can find the inguinal lymph nodes in the groin area (to the left and right of the pubic bone). However, swelling may already be quite apparent on visual inspection.

To treat inguinal buboes, start antibiotics according to the algorithm for inguinal buboes and refer to the department for minor surgery. The patient needs to return to the clinic for follow-up in 3 days.

If your patient does not show signs of improvement, refer the patient for further treatment and to rule out other causes of lymph node swelling.

Lymph node swelling can occur at various lymph sites due to cancer or infections (including TB). Lymph node swelling which is unlikely to be associated with an STI or which does not respond to treatment requires referral.

To break the chain of transmission,

- Educate on current infection by explaining that s/he likely has an STI and that STIs are transmitted from an infected partner.
- Emphasize that taking medicines as directed is important to cure the infection.
- Advise to abstain from sex for the entire duration of treatment and not to resume sexual activity until the partner has completed treatment.
- Ask the patient to return in 3 days for follow-up.
- Make a plan for partner notification and treatment and follow-up to ensure that partner is treated and offered screening for other STIs/HIV.
- Prevent future infections by identifying the risk factors that led to infection; discuss how to reduce risk to avoid future infections using C-B-D and ladder tools; remind the patient that sex without a condom increases risk of getting infected with STIs/HIV or infecting others.
- Review condom use and provide condoms.
- Offer HIV testing.
KEY POINTS

1. The algorithm on inguinal buboes shows how to diagnose and treat buboes caused by chancroid and LGV.
2. Refer all buboes that do not respond to treatment.
Genital Warts

Genital warts are caused by the human papilloma virus, also known as HPV. There are more than 100 different types of HPV. Certain strains of HPV can cause anogenital warts. High-risk strains of HPV can lead to cancer in the anogenital area in men and women. Among the cancers caused by the high-risk strains is cervical cancer, a leading cause of death in women in under-resourced settings. Cervical cancer can be particularly aggressive in HIV-positive women. All women, and particularly HIV-positive women, should receive cervical cancer prevention services.

Genital warts appear as bumps on the surface of the skin. They are not fluid-filled or ulcerated. They can be relatively flat or quite raised above the surface of the skin. They may be invisible to the naked eye, small, or large. They can appear as multiple tiny bumps or as a large bump, cluster, or patch. They are often skin tone to white or grayish.
Genital warts can appear in women on the vulva, vaginal walls, cervix, perineum, anus, and rectum.

Genital warts can appear in men on the penis, scrotum, perineum, anus, and rectum.

In particular, a history of receptive, anal sex in women or men can expose the anal and rectal area to HPV. However, the external anogenital area may be exposed during any type of genital skin-to-skin sexual activity.

In assessing the patient for genital warts, always start with a detailed patient history and then examine the patient. As part of the focused STI physical exam, examine the genital and anal areas with gloved hands in a well-lit area, checking all areas, including underneath any folds of genital skin, for any bumps. If trained to perform a speculum exam, carefully look at the vaginal wall and cervix for any skin changes, or refer to another clinician for this screening.

Very commonly, people can be infected with HPV, but there are no visible warts. It is possible for the cervix to look normal to the naked eye, but for the cells to be cancerous. Female patients must receive proper cervical cancer screening.

A limited case of genital warts can typically be managed fairly easily. Refer your patient to a center where s/he can obtain treatment.

Or, in the case that you are the clinician who will be treating the warts, make sure that you use standard precautions if using chemical methods of treatment. Make sure that you apply the chemical ONLY to the wart itself. Use extreme caution because the chemicals can also kill normal skin. Any spills could cause damage to your skin or to the patient's skin. You should also take care to avoid a so-called “kissing burn.” For example, if you are treating the inner aspect of one side of the vulva, you should wait until the chemical dries and/or place sterile gauze over the area, otherwise you could create a “kissing burn” where the treated side of the vulva touches the opposing skin of the vulva, and the chemical burns the opposing skin. The same concept holds true when treating the anogenital area in general, for example, around the anus or an area under a fold of foreskin. Also, keep in mind that podophyllin and some other treatments for warts are contraindicated in pregnancy. Always check your patients for pregnancy and determine the safety of any treatment before starting therapy.

Warts that appear in extensive patches, resemble a large cauliflower-like growth, cause obstruction, appear to grow in and around the urethra, or are present on the vaginal walls or cervix require special care. Refer the patient to a hospital where biopsies may be obtained and where cryotherapy (freezing), surgical, or electrosurgical methods may be used to remove the abnormal tissue.
As always, if you see abnormal tissue in the genitoanal area, vagina, or cervix and you feel uncertain of the diagnosis and/or if any STI does not respond to treatment, refer for further evaluation. You do not want to miss the diagnosis of skin cancer. Another possible differential diagnosis includes the wart-like lesions that can occur in syphilis. Refer if you are unsure of the diagnosis.

Chemical treatment of warts typically requires multiple applications. Plan follow-up visits for treatment as appropriate and determine the need for further treatment in response to the individual patient’s progress in treatment. Podophyllin and some other treatments for warts are contraindicated in pregnancy. Always check your patient for pregnancy and determine the safety of any treatment before starting therapy.

Chemical treatment of HPV does not cure the virus, but can help to remove visibly affected tissue. Warts may recur after treatment. Even after treatment, patients should continue to use condoms, which can reduce, but not eliminate, exposure. Partners of patients should be offered screening for warts by visual exam and screening for STIs, HIV, and cervical cancer, in addition to STI AND HIV counseling and education.

### KEY POINTS

1. Chemical, surgical, and cryotherapy treatment for genital warts controls the visible manifestation of warts, but does not cure HPV, the infection that causes warts.

2. All patients (and all partners of patients) diagnosed with warts should be given routine counseling and education, and appropriate screening and treatment for STIs, HIV, and genital warts.

3. Female patients should receive cervical cancer screening and preventive care.

4. Refer all wart-like lesions that are extensive or obstructive. Consult with an experienced clinician if you are unsure of the diagnosis or best treatment option.
Case Studies

Task: Read the case studies and answer the related questions.

CASE STUDY #1

Michael is a 25-year-old day laborer who complains of bumps on his “buttocks.” He denies any diarrhea or anal bleeding. On exam, warts are visible around his anus and extending towards the scrotum. He denies any urethral discharge or testicular pain and/or swelling.

Michael is reluctant to speak about his sexual activity. After being reassured that the session is confidential, he answers the question “Do you have sex with men, women, or both?” as “mostly men.” He has one steady male partner but occasionally has sex with other people. Aside from this partner, he has had one other male partner in the last six months. He and his boyfriend engage in anal sex, with Michael as the receptive partner, and in oral sex with both as the receptive partner. He has not been tested for HIV.

Questions:

1. What treatment would you provide?

________________________________________________________________________

________________________________________________________________________

2. What key education and prevention messages would you discuss with Michael?

________________________________________________________________________

________________________________________________________________________

3. How might you talk to Michael about partner notification and treatment?

________________________________________________________________________

________________________________________________________________________

4. What might you say to Michael to encourage him to have an HIV test?

________________________________________________________________________

________________________________________________________________________
CASE STUDY #2

Jean is a 20-year-old man who comes into the clinic complaining of painful “lumps” in his groin area. He denies urethral discharge, pain on urination, or any other genital sores. He has no other health problems.

Jean is the oldest of several siblings. His parents both died four years ago and Jean now heads the household. He has not married yet because of his responsibilities to his younger siblings. He lives with his siblings in a small two-room house made of mud bricks. Along with other older siblings, Jean farms a small piece of land inherited from his parents. When asked about sexual activity, Jean says that he sometimes visits a young woman in a neighboring village who is kind and “friendly with men.”

Questions:

1. What does Jean most likely have? Why?
   ________________________________________________________________
   ________________________________________________________________

2. How would you treat him?
   ________________________________________________________________
   ________________________________________________________________

3. What key education and prevention messages would you discuss with Jean?
   ________________________________________________________________
   ________________________________________________________________
CASE STUDY #3

Michelle is a 32-year-old mother of three young children who presents with “pain and bumps down below.” You know her from a few previous prenatal visits, where she received an HIV test which was negative. She says that she hasn’t been sexually active since getting pregnant. You calculate that she is 30 weeks pregnant. She is confident her husband isn’t going out with other partners because she “takes care of his needs” with oral sex.

When you examine her, you notice around 7 small ulcers on her left vulva. They are sensitive to touch. She doesn’t have any abnormal vaginal discharge, pain on urination, or lower abdominal pain. When you ask her if she has ever had these before, she says that she used to get these ulcers occasionally when she was younger, but they always went away, so she didn’t think anything of them.

Questions:
1. What does Michelle most likely have? Why?
_________________________________________________________________________
_________________________________________________________________________

2. How would you treat her?
_________________________________________________________________________
_________________________________________________________________________

3. Can she have a normal vaginal delivery? Why?
_________________________________________________________________________
_________________________________________________________________________

4. What key education and prevention messages would you discuss with Michelle?
_________________________________________________________________________
_________________________________________________________________________
Role Play Instructions

Clinician for Gloria

Gloria is a 19-year-old woman who comes into the clinic because she is concerned about unplanned pregnancy. *Gloria will start the role play by telling you this.*

Do a thorough screening and sexual history with Gloria using COMPAS + HIV as a guide.

Tell Gloria that you are going to do a physical exam. She will present you with the results of the exam.

Based on the results of the physical exam, choose the appropriate algorithm to diagnose and determine appropriate treatment.

Do thorough education and prevention with Gloria using the patient education box on the algorithm, the Ladder of Risk tool, and the Choices-Barriers-Decisions method.

Talk with Gloria about partner notification and treatment using the Choices-Barriers-Decisions method.
Role Play Instructions (cont.)

Gloria

You are a 19-year-old woman. You come into the clinic because you are worried about getting pregnant. Start the role play by saying this to the clinician.

DO NOT give any other information to the clinician unless s/he asks you for it.

Symptoms: What you want is some pills so you don’t get pregnant. You have recently noticed that you have a “spot” “down there,” but it is not painful and you are not worried about it. You do not have any other symptoms – no unusual vaginal discharge, no pain on urination, and no lower abdominal pain.

Sexual history: You recently began a relationship with a much older man, your first sexual partner, and you don’t want to become pregnant. This man helps you by giving you money sometimes. You think that he is married but you have never asked him directly – you don’t want to offend him because you like him and he helps you. You have engaged in both oral and vaginal sex and do not use condoms. So far your periods have been regular and your last period was two weeks ago. You have never been tested for HIV.

Physical exam: The lesion is not painful and you only noticed it recently. When the clinician tells you s/he will do a physical exam, tell her/him that the lesion is not painful.

Psychosocial history: You are poor and you work to help support your parents and younger siblings. Your parents do not know that you are in this relationship, and they would probably throw you out of the house if they found out. You like the man you are seeing and he gives you money sometimes, which you use to help pay for schooling to help your younger siblings. But you haven’t wanted to ask him to use condoms, or ask him about “other women” because you don’t want to offend him.

KEY POINTS

1. Algorithms are an essential tool for diagnosing and treating STIs correctly.

2. In addition to using algorithms, you must screen and take a sexual history using COMPAS as a guide, coordinate with other team members, counsel the patient, and prepare for partner notification and treatment.
PART 7

Conclusion: Reflection and Application
Conclusion

Task: Reflect silently on how you can use what you have learned in this unit to improve your work when you return to your clinic. When you have reflected for a minute or two, write down three things you will CHANGE in your practice to use what you have learned. These will be your three resolutions.

Resolutions:

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________
Glossary

**Bimanual exam:** An exam used to assess a female patient's reproductive organs. The exam is performed by a clinician by placing two fingers inside of the vagina and his/her other hand on top of the lower abdomen. This exam is very helpful when PID is suspected, but can also yield information about other diagnoses.

**Cervicitis:** Inflammation of the cervix, often caused by infections such as gonorrhea, chlamydia, and trichomoniasis.

**Cervix:** The lowest part of the uterus (womb) which is visible and palpable in the vaginal canal.

**Dysuria:** Difficult or uncomfortable urination, commonly including the sensation of pain or burning.

**Ectopic pregnancy:** A pregnancy which occurs outside of the uterus (womb) and which can lead to hemorrhage and death. Untreated gonorrhea and chlamydia increase the risk of ectopic pregnancy.

**Purulent:** Consisting of pus.

**Tubo-ovarian abscess:** A focal area of inflammation and infection in the fallopian tubes and/or ovaries, a serious problem requiring urgent surgical consultation.

**Urethra:** The duct through which urine flows from the bladder to exit the body.

**Vaginitis:** An inflammation of the vagina, which can be caused by both sexually transmitted and non-sexually transmitted infections.

**Vesicle:** A fluid-filled lesion, appearing as a blister.
Abbreviations

BP: Blood Pressure
C-B-D: Choices, Barriers, Decisions
COMPAS: Condoms, Menace, Partners, Activities, Symptoms
HIV: Human Immunodeficiency Virus
HPV: Human Papilloma Virus
HR: Heart Rate
HSV: Herpes Simplex Virus
LGV: Lymphogranuloma Venereum
PID: Pelvic Inflammatory Disease
RR: Respiratory Rate
STI: Sexually Transmitted Infection

Key References


### Treatment Chart for STIs in Women, Newborns, and Men

#### Abnormal Vaginal Discharge (Women)

<table>
<thead>
<tr>
<th>DISEASE</th>
<th>1ST CHOICE TREATMENT</th>
<th>2ND CHOICE TREATMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abnormal vaginal discharge from sexually transmitted infections:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gonorrhea</td>
<td>Ciprofloxacin* 500mg by mouth single dose</td>
<td>Ceftriaxone 125mg IM single dose</td>
</tr>
<tr>
<td>Chlamydia</td>
<td>Doxycycline** 100mg by mouth twice a day for 7 days</td>
<td>Erythromycin 1g by mouth twice a day for 7 days</td>
</tr>
<tr>
<td>Trichomoniasis</td>
<td>Metronidazole† 2g by mouth single dose</td>
<td>Tinidazole†† 2g by mouth single dose</td>
</tr>
<tr>
<td>Abnormal vaginal discharge from non-sexually transmitted infections:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bacterial Vaginosis</td>
<td>Metronidazole† 2g by mouth single dose</td>
<td>Tinidazole†† 2g by mouth single dose</td>
</tr>
<tr>
<td>Candidiasis</td>
<td>Fluconazole# 150mg by mouth single dose</td>
<td>Clotrimazole 500mg per vagina single dose at bedtime</td>
</tr>
</tbody>
</table>

* Ciprofloxacin is contraindicated in patients < 15 years old, and pregnant women in their first trimester. Ceftriaxone is a good alternative in pregnancy.
** Doxycycline is contraindicated in patients < 7 years and pregnant or breastfeeding women; doxycycline decreases the efficacy of oral contraceptives.
† Metronidazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking metronidazole.
†† Tinidazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking tinidazole.
# Fluconazole is contraindicated in pregnancy.

#### Lower Abdominal Pain (Women)

<table>
<thead>
<tr>
<th>DISEASE</th>
<th>1ST CHOICE TREATMENT</th>
<th>2ND CHOICE TREATMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gonorrhea</td>
<td>Ceftriaxone 125mg IM single dose</td>
<td>(See 1st choice)</td>
</tr>
<tr>
<td>Chlamydia</td>
<td>Doxycycline** 100mg by mouth twice a day for 14 days</td>
<td>Erythromycin 1g by mouth twice a day for 14 days</td>
</tr>
<tr>
<td>Various Bacteria</td>
<td>Metronidazole† 500mg by mouth twice a day for 14 days</td>
<td>Tinidazole†† 500mg by mouth twice a day for 14 days</td>
</tr>
</tbody>
</table>

** Doxycycline is contraindicated in patients < 7 years and pregnant or breastfeeding women; doxycycline decreases the efficacy of oral contraceptives.
† Metronidazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking metronidazole.
†† Tinidazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking tinidazole.
## Conjunctivitis in the Newborn

<table>
<thead>
<tr>
<th>DISEASE</th>
<th>1ST CHOICE TREATMENT</th>
<th>2ND CHOICE TREATMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Treat the baby:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gonorrhea</td>
<td>Ceftriaxone 50mg/kg IM single dose (maximum total dose 125mg)</td>
<td>(See 1st choice)</td>
</tr>
<tr>
<td>Chlamydia</td>
<td>Erythromycin syrup 50mg/kg/day by mouth taken in 4 divided doses for 14 days</td>
<td>(See 1st choice)</td>
</tr>
<tr>
<td><strong>Treat the mother:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gonorrhea</td>
<td>Ceftriaxone 125mg IM single dose</td>
<td>(See 1st choice)</td>
</tr>
<tr>
<td>Chlamydia</td>
<td>Erythromycin 1g by mouth twice a day for 14 days</td>
<td>(See 1st choice)</td>
</tr>
<tr>
<td><strong>Treat the partner(s) of the mother:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gonorrhea</td>
<td>Ciprofloxacin* 500mg by mouth single dose</td>
<td>Ceftriaxone 125mg IM single dose</td>
</tr>
<tr>
<td>Chlamydia</td>
<td>Doxycycline** 100mg by mouth twice a day for 7 days</td>
<td>Erythromycin 1g by mouth twice a day for 7 days</td>
</tr>
</tbody>
</table>

* Ciprofloxacin is contraindicated in patients < 15 years old, and pregnant women in their first trimester. Ceftriaxone is a good alternative in pregnancy.

** Doxycycline is contraindicated in patients < 7 years and pregnant or breastfeeding women; doxycycline decreases the efficacy of oral contraceptives.
### Urethral Discharge (Men)

<table>
<thead>
<tr>
<th>DISEASE</th>
<th>1ST CHOICE TREATMENT</th>
<th>2ND CHOICE TREATMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gonorrhea</td>
<td>Ciprofloxacin* 500mg by mouth single dose</td>
<td>Ceftriaxone 125mg IM single dose</td>
</tr>
<tr>
<td>Chlamydia</td>
<td>Doxycycline** 100mg by mouth twice a day for 7 days</td>
<td>Erythromycin 1g by mouth twice a day for 7 days</td>
</tr>
</tbody>
</table>

If symptoms persist despite proper treatment and good adherence:

<table>
<thead>
<tr>
<th>DISEASE</th>
<th>1ST CHOICE TREATMENT</th>
<th>2ND CHOICE TREATMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trichomoniasis</td>
<td>Metronidazole† 2g by mouth single dose</td>
<td>Tinidazole†† 2g by mouth single dose</td>
</tr>
</tbody>
</table>

* Ciprofloxacin is contraindicated in patients < 15 years old, and pregnant women in their first trimester. Ceftriaxone is a good alternative in pregnancy.

** Doxycycline is contraindicated in patients < 7 years and pregnant or breastfeeding women; doxycycline decreases the efficacy of oral contraceptives.

† Metronidazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking metronidazole.

†† Tinidazole is contraindicated in the first trimester of pregnancy. Patients may not drink any alcohol while taking tinidazole.

### Scrotal Swelling (Men)

<table>
<thead>
<tr>
<th>DISEASE</th>
<th>1ST CHOICE TREATMENT</th>
<th>2ND CHOICE TREATMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gonorrhea</td>
<td>Ciprofloxacin* 500mg by mouth single dose</td>
<td>Ceftriaxone 125mg IM single dose</td>
</tr>
<tr>
<td>Chlamydia</td>
<td>Doxycycline** 100mg by mouth twice a day for 7 days</td>
<td>Erythromycin 1g by mouth twice a day for 7 days</td>
</tr>
</tbody>
</table>

* Ciprofloxacin is contraindicated in patients < 15 years old, and pregnant women in their first trimester. Ceftriaxone is a good alternative in pregnancy.

** Doxycycline is contraindicated in patients < 7 years and pregnant or breastfeeding women; doxycycline decreases the efficacy of oral contraceptives.
## Genital Ulcers (Adults)

<table>
<thead>
<tr>
<th>DISEASE</th>
<th>1ST CHOICE TREATMENT</th>
<th>2ND CHOICE TREATMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>For vesicles or lesions with a history of recurrence:</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Herpes | • **For initial outbreak:** Acyclovir 400mg by mouth three times a day for 7 days  
• **For recurrences:** Acyclovir 400mg by mouth three times a day for 5 days  
• **If severe lesions with HIV-coinfection:** Acyclovir 400mg by mouth three to five times a day until remission  
• **In severe disease:** Acyclovir 5-10mg/kg IV every 8 hours for 5-7 days or until clinical resolution is attained. | (See 1st choice) |
| Syphilis | Benzathine Benzyl Penicillin 2.4 million units IM single dose (dose is large, so usually it is given at two sites) | Benzathine Benzyl Penicillin is gold standard for both pregnant and non-pregnant patients. If contraindicated due to allergy, see 2nd choice treatment options for syphilis below. |
| **For lesions without recurrence or vesicle stage:** | | |
| Syphilis | Benzathine Benzyl Penicillin 2.4 million units IM single dose (dose is large, so usually it is given at two sites) | • **If penicillin-allergic and pregnant:** Erythromycin 1g orally twice a day for 14 days with meals. In the case of the pregnant woman treated with Erythromycin, follow-up care of the baby and mother after pregnancy is required as the effectiveness of Erythromycin is highly questionable.  
• **If penicillin-allergic and non-pregnant:** Doxycycline** 100mg by mouth twice a day for 14 days with meals. |
| Chancroid | Ciprofloxacin* 500mg by mouth twice a day for 3 days | Ceftriaxone 250mg IM single dose |

* Ciprofloxacin is contraindicated in patients < 15 years old, and pregnant women in their first trimester. Ceftriaxone is a good alternative in pregnancy.

** Doxycycline is contraindicated in patients < 7 years and pregnant or breastfeeding women; doxycycline decreases the efficacy of oral contraceptives.
## Inguinal Buboes (Adults)

<table>
<thead>
<tr>
<th>DISEASE</th>
<th>1ST CHOICE TREATMENT</th>
<th>2ND CHOICE TREATMENT</th>
</tr>
</thead>
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Pre-Test

1. Why is STI treatment considered a part of comprehensive HIV care and prevention?
   A. STIs should be identified and treated because they can make HIV-positive patients very sick.
   B. In an HIV-positive person, STIs can increase shedding of HIV, increasing HIV transmission.
   C. In an HIV-negative person, STIs can damage the mucosal skin, increasing the risk for acquiring HIV.
   D. All of the above

2. Integrated STI/HIV management includes the following, EXCEPT:
   A. Screen for STIs at every encounter with HIV-infected patients
   B. Post a notice in the village, or tell all of the patient’s neighbors about the patient’s STI diagnosis.
   C. Test every patient with an STI for HIV
   D. Education and prevention counseling
   E. Partner notification and treatment

3. Fill in the blank: When inquiring about symptoms of STIs in men, what are three symptoms of chlamydia and gonorrhea that you should be sure to ask?
   ____________________________________________________________________
   ____________________________________________________________________

4. Fill in the blank: When inquiring about symptoms of STIs in women, what are two symptoms of chlamydia and gonorrhea that you should be sure to ask?
   ____________________________________________________________________
   ____________________________________________________________________

5. Which activity in this list is most likely to result in the transmission of HIV?
   A. Unprotected vaginal sex
   B. Giving each other a massage
   C. Unprotected oral sex
   D. Kissing

6. A man presents to the clinic with one big crater-like lesion on his penis which is not painful. He denies other symptoms. Which algorithm would you use treat him?
   A. Urethral discharge
   B. Genital warts
   C. Genital ulcers
   D. Inguinal buboes
7. While taking care of your female patient, you notice that her baby has yellowish pus in his eyes. Of the list below, which would you suspect as the cause?
   A. Syphilis
   B. Chancroid
   C. Gonorrhea
   D. Human Papilloma Virus

8. When you see a baby with conjunctivitis, who would require treatment for the STIs commonly causing neonatal conjunctivitis?
   A. The baby
   B. The biological mother of the baby
   C. The sexual partner(s) of the mother
   D. All of the above

9. You have diagnosed PID without danger signs in an HIV+ woman. You tell her to make an appointment to follow up with you in:
   A. Later that same day
   B. 7 to 10 days
   C. 3 days
   D. 2 weeks, unless symptoms worsen

10. You see a female patient who has lower abdominal pain. Which of the following information would lead to you make an urgent referral to a treatment center with surgical services?
    A. She has had five new partners in the past year.
    B. She has used condoms only occasionally.
    C. She also has a large amount of yellow vaginal discharge
    D. She has not had a normal menstrual period in the last month, but she has had some bleeding that comes and goes.

11. Which answer in this list best describes the most important reason(s) why a clinician should always check for lower abdominal pain in a patient with vaginal discharge?
    A. Diarrheal disease can be problematic and can complicate an STI
    B. In order to assess whether the infection has spread from the lower reproductive tract to the upper reproductive tract
    C. Lower abdominal pain is an important clinical sign that can provide clues about serious diagnoses such as ectopic pregnancy and tubo-ovarian abscess.
    D. B & C
    E. A & B
12. A male patient comes into the clinic with such severe pain in the scrotum that he can hardly respond to your questions. You are able to ascertain that the pain started suddenly and he felt normal before it happened. The testicle appears only very mildly swollen. Your best response to this situation is:
   A. Send him to a referral hospital where surgery is available immediately.
   B. Treat him for STIs causing scrotal pain.
   C. Tell him to stay at the clinic so that you can monitor the pain and swelling.
   D. Make sure that he receives full counseling regarding a difficult partner notification situation.

13. A man in his fifties comes to you with an enlarged and painful lymph node in his groin area. He denies other complaints. What algorithm will you use to treat him?
   A. The algorithm for inguinal buboes and for urethral discharge because it is likely that these STIs are co-existing
   B. Inguinal buboes
   C. Genital ulcers
   D. None, he is older, so he is considered low-risk for STIs

14. A patient complains of multiple small sores around her vulva that are very painful. The most likely cause is:
   A. Gonorrhea
   B. Syphilis
   C. Genital Warts
   D. Herpes

15. Fill in the blank: What are at least 3 ways in which patients can lower their risk of getting an STI?

_________________________________________________________________________________
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16. You see a young woman in clinic with vaginal discharge that you suspect is due to chlamydia or gonorrhea. She can’t remember when she had her last period. Why is it important to know if she is in early pregnancy before giving her antibiotics?
   A. Penicillin is contraindicated
   B. Doxycycline is contraindicated
   C. Ciprofloxacin is contraindicated
   D. B & C

17. Fill in the blank: List at least two causes of non-sexually transmitted vaginitis

_________________________________________________________________________________
_________________________________________________________________________________
18. True or False: Trichomoniasis a NOT sexually transmitted disease.
   A. True
   B. False

19. You see a patient who is at the clinic for a routine HIV visit. She says that she sometimes feels achy and has a strange rash on the palms of her hands and soles of her feet and she doesn't know why. What STI fits this description?
   A. There are no STIs that fit this description. This is likely to be a drug reaction.
   B. Extragenital herpes
   C. HPV of the hands and feet
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Post-Test

1. Why is STI treatment considered a part of comprehensive HIV care and prevention?
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