

# Sexually Transmitted Infections, Including HIV

## Key Points for Providers and Clients

- **People with sexually transmitted infections (STIs), including human immunodeficiency virus (HIV), can use most family planning methods safely and effectively.**
- **Male and female condoms can prevent STIs, including HIV,** when used consistently and correctly.
- **STIs often have no signs or symptoms, particularly in women.**
- **People should seek health care if they think that they or their partners might have an STI.**
- **Many STIs can be successfully treated.** The sooner they are treated, the less likely they are to cause long-term health problems such as infertility or chronic pain, or to infect a sexual partner or a fetus.
- **Vaginal discharge can also be caused by infections that are not sexually transmitted.**

## Sexually Transmitted Infections

### What Are Sexually Transmitted Infections?

Sexually transmitted infections (STIs) are caused by bacteria, viruses, and parasites that are spread through sexual contact. These organisms can be found in vaginal fluids and in semen, on the skin of the genitals and areas around them, and in the mouth, throat, and rectum. Most STIs cause no symptoms or cause symptoms that can easily go unnoticed. Others can cause pain and physical and psychological discomfort. If not treated, some STIs can cause pelvic inflammatory disease, chronic pelvic pain, infertility, and cervical

cancer in women, and some STIs can cause infertility, and anorectal and prostate cancer in men. Some STIs can also greatly increase the chance of becoming infected with HIV.

## Who Is at Risk for STIs?

Some family planning clients may be at high risk of getting an STI. A person's risk of getting an STI, including HIV, depends on:

- specific higher-risk behaviors (see the box below)
- how common these infections are in the community.

Family planning providers can help their clients assess their risk of getting an STI if they know how common or prevalent these infections are locally. Limited access to good-quality health services results in more untreated infections, which increases spread in the community.

Understanding their own risk for HIV and other STIs helps people decide how to protect themselves and others. People are often the best judges of their own STI risk, especially when they are well informed about what behaviors and situations can increase or decrease the risk of infection (see the box below and Avoiding STIs).

### Sexual Practices and Other Behaviors that Increase the Risk of Getting an STI, Including HIV

Sexual practices and behaviors that increase the client's risk of infection should be asked about respectfully during a private and confidential discussion:

- Any type of sexual practice (oral, vaginal, or anal) with a partner who has STI symptoms, or who has been diagnosed or treated for an STI in the past 6 months
- Any type of sexual practice (oral, vaginal, or anal) with more than 1 partner without condoms in the past 6 months—the more partners, the greater the risk
- Exposure to contaminated needles from injection drug use or other (such as occupational) exposure

Some groups (known as “key populations”) are at higher risk of HIV and other STIs, regardless of the prevalence in the general population. These include:

- Adolescents
- People who have sex for money, food, gifts, shelter, or favors
- Gay, bisexual, and other men who have sex with men
- Transgender people
- People who inject drugs
- The sexual partners of these individuals.

## What Causes STIs?

Several types of organisms cause STIs. Those caused by bacteria or parasites can generally be cured. STIs caused by viruses generally cannot be cured, although they can be treated to relieve or eliminate symptoms. Most STIs are spread by sexual activity, and much of this spread can be prevented by the correct and consistent use of condoms. Some people, however, can get an STI in other ways. Details are provided in the table below.

## STI Types, Causes, Cures, and How They Are Spread

STI	Type	Curable	Sexual spread	Nonsexual spread
<b>Chancroid</b>	Bacterial	Yes	Vaginal, anal, and oral sex	None
<b>Chlamydia</b>	Bacterial	Yes	Vaginal and anal sex, or rarely, from genitals to mouth	From mother to child during delivery
<b>Gonorrhea</b>	Bacterial	Yes	Vaginal and anal sex, or contact between mouth and genitals	From mother to child during delivery, or through breast milk  Contaminated blood transfusion
<b>Hepatitis B</b>	Viral	No	Vaginal and anal sex, or from penis to mouth	From mother to child during delivery, or through breast milk  Contaminated blood transfusion

STI Types, Causes, Cures and How They are Spread (continued)

<b>STI</b>	<b>Type</b>	<b>Curable</b>	<b>Sexual spread</b>	<b>Nonsexual spread</b>
<b>Herpes</b>	Viral	No	Genital or oral contact with an ulcer, including during vaginal and anal sex; also genital contact in area without ulcer	From mother to child during pregnancy or delivery
<b>HIV</b>	Viral	No	Vaginal and anal sex, or very rarely, oral sex	From mother to child during delivery, or through breast milk  Injection drug use with nonsterile needles  Contaminated blood transfusion
<b>Human papilloma-virus (HPV)</b>	Viral	No	Vaginal, anal, and oral sex	From mother to child during delivery
<b>Human T-lympho-tropic virus</b>	Viral	No	Vaginal and anal sex	From mother to child during pregnancy or delivery, or through breast milk  Contaminated blood transfusion
<b>Syphilis</b>	Bacterial	Yes	Genital or oral contact with an ulcer, including during vaginal and anal sex	From mother to child during pregnancy or delivery  Contaminated blood transfusion
<b>Tricho-moniasis</b>	Parasitic	Yes	Vaginal, anal, and oral sex	From mother to child during delivery

## STI Signs and Symptoms

Common signs and symptoms which suggest an STI are listed in the table below, along with their possible causes.

Symptoms	Possible cause
Discharge from the penis: pus, clear or yellow-green drip	Chlamydia, gonorrhea, trichomoniasis
Abnormal vaginal discharge	Cervical STI: Chlamydia, gonorrhea Vaginal STI: Trichomoniasis Non-STI vaginal infection: Bacterial vaginosis, candidiasis (see Common Vaginal Infections That May Not Be Sexually Transmitted, next page)
Anorectal discharge	Chlamydia, gonorrhea
Lower abdominal pain (possible pelvic inflammatory disease)	Chlamydia, gonorrhea, trichomoniasis
Swollen and/or painful testicles	Chlamydia, gonorrhea
Warts on the genitals, anus, or surrounding areas	HPV, especially types 6 and 11
Ulcers on the genitals, anus, or surrounding areas	Genital herpes, syphilis, chancroid

## Early Identification of STIs

Ideally, an STI would be identified (and treated) early, to avoid complications and stop the spread of infection. To help detect STIs early, for every client seeking family planning, a provider should:

- Ask about the client's sexual history and assess their risk of getting an STI.
- Ask whether the client or their partner(s) has symptoms of STIs, such as genital sores/pain/swelling, abnormal genital or anorectal discharge, or lower abdominal pain.
- Look for signs of STIs when doing a pelvic or genital examination.
- For clients with signs and/or symptoms of STIs, promptly make a syndromic diagnosis and provide appropriate treatment, or in some settings perform STI testing as needed (rapid or laboratory testing, depending on availability—see next page) or refer the client to another facility for appropriate care.
- For clients without STI signs or symptoms but who are at high risk for acquiring STIs, encourage them to get screened for syphilis and, when feasible, also for gonorrhea and chlamydia.

In addition, a family planning provider should:

- Advise on condom and lubricant use, as appropriate to the client's needs.
- Offer assistance with notifying sexual partners of all clients diagnosed with an STI and those who have symptoms and signs of an STI; this can be done using different strategies based on the client's preferences for each partner.

In settings where STI testing is available, providers should, where appropriate:

- Offer hepatitis B testing, preferably using rapid screening tests that can be conducted during the same visit, and: if positive, the client should be referred for assessment of treatment eligibility; if negative, the client should consider hepatitis B vaccination when recommended and available (see the table on prevention measures in Avoiding STIs on the next page for recommended hepatitis B vaccination among adults).
- Offer tests for gonorrhea and chlamydial infections, if available. Based on the history and risk, collect samples from the throat, vagina, and anus. If possible, offer the client the opportunity to collect samples themselves (self-collection), as some find this more acceptable.
- Inform clients at high risk of STI exposure that syphilis and HIV testing should be done regularly—at least once a year.
- Advise clients to look out for any genital sores, warts, or unusual discharge in themselves or their sexual partner(s) and, if present, seek health care as soon as possible.

## **Common Vaginal Infections That May Not Be Sexually Transmitted**

Candidiasis (also called yeast infection or thrush) and bacterial vaginosis are the most common vaginal infections and they are usually due to an overgrowth of organisms normally present in the vagina. They may or may not be sexually transmitted. Candidiasis (which can cause curd-like discharge and itchiness) is not usually sexually transmitted. Research links bacterial vaginosis with sexual behavior. Women with multiple partners are more likely to have bacterial vaginosis, but even a woman who has never had sex can, rarely, develop bacterial vaginosis.

- In most settings these infections are much more common than STIs. Researchers estimate that between 5% and 25% of women have bacterial vaginosis, and between 5% and 15% have candidiasis, at any given time.
- Vaginal discharge due to these infections may be similar to discharge caused by some STIs; the discharge caused by bacterial vaginosis, for example, is similar to that caused by trichomoniasis. It is important to explain to clients with vaginal discharge that they may not have an STI, particularly if they do not have any other symptoms and are at low risk of a STI.

- Bacterial vaginosis can be cured with antibiotics, usually metronidazole. Candidiasis can be cured with antifungal medications such as fluconazole. Without treatment, bacterial vaginosis can sometimes lead to complications in pregnancy, and candidiasis can be spread to an infant during childbirth.

Good hygiene may help some clients avoid vaginal infections. Washing the external genital area with unscented soap and clean water, and not using douches, detergents, disinfectants, or vaginal cleaning or drying agents, are good hygiene practices.

## Avoiding STIs

Family planning providers can help their clients in various ways to prevent STIs, including HIV.

Prevention measure	Notes
<b>HPV vaccine</b>	See Vaccine Available for Prevention (in the section of this chapter on Cervical Cancer), p. 354.
<b>Hepatitis B vaccine</b>	Hepatitis B infection is prevented by vaccines, which are usually given to newborns and children. Adolescents and adults at increased risk of infection (see the box in the section Who Is at Risk for STIs?, p. 360) are also recommended for vaccination, including people living with HIV, household and sexual contacts of people with chronic hepatitis B virus infection, men who have sex with men, people with multiple sexual partners, persons in prisons, and persons who inject drugs.
<b>Condoms</b>	The correct and consistent use of male or female condoms offers effective protection against STIs, including HIV. See Chapters 14 and 15.
<b>Pre-Exposure Prophylaxis (PrEP)</b>	PrEP can be an effective tool to prevent HIV when taken as prescribed. See Chapter 23, section on Preventing HIV Acquisition, p. 365.
<b>Post-Exposure Prophylaxis (PEP)</b>	PEP can be offered to prevent HIV infection after exposure, for emergency situations. It must be started within 72 hours after the possible exposure. See Chapter 23, section on Preventing HIV Acquisition, p. 365.

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## STI prevention measures (continued)

Prevention measure	Notes
<b>Lubricant</b>	The use of lubricants is recommended for anal sex, and it can also help vaginal lubrication when needed or wanted. Lubricants prevent micro tears in the anorectal and vaginal mucosa, which can create entry points for STIs. <b>Water-based lubricants are recommended when used with condoms.</b>
<b>Male circumcision</b>	Male circumcision can reduce men's risk of HIV infection by 50–60% when having vaginal sex with a female partner. Male circumcision can also reduce a female partner's risk of acquiring STIs.
<b>Preventing and treating STIs</b>	Diagnosing and treating STIs helps prevent the client from acquiring additional STIs; this is because sores or ulcers associated with existing STIs can make it easier for other STIs (including HIV) to infect the person. For example, herpes simplex virus 2 (HSV-2) infection (genital herpes) increases the risk of acquiring HIV 3-fold, syphilis 2-fold, and trichomoniasis 1.5-fold.

A family planning provider should inform clients about practices or behaviors that increase someone's risk of getting a STI, including HIV (see *Who Is At Risk for STIs?*, p. 340). Clients can then think about their own circumstances and practices to assess their risk of acquiring an STI. If a client seeks further advice or counseling, then depending on the needs of each client, providers should tailor their advice about effective strategies to reduce the risk of an STI, and should always do this in a private setting and with respect for confidentiality.

The decision to use particular prevention measure(s) should be an informed choice, made voluntarily by the client. Providers should not allow their personal views to influence clients' prevention choices. It is important to remember that clients might choose to use different strategies in different situations and with different partners, as well as at different times in their lives. **The best strategy is the one that a person can practice effectively.**

Family planning providers can help with HIV prevention, and its early diagnosis and treatment, particularly among people at higher risk of infection and in countries where many people are living with HIV. See Chapter 23 – Family Planning for Adolescents and Women at High Risk for HIV.



## Safer Conception for HIV Serodiscordant Couples

When a couple wants to have a child and one partner is living with HIV while the other is not (a serodiscordant couple), providers should:

- Make sure that the partner living with HIV is receiving consistent and correct antiretroviral therapy (ART) and is regularly tested to monitor viral load (or CD4 cell count, if viral load testing is not available). Successful ART with viral suppression prevents HIV transmission to sexual partners: there is no transmission when viral load is undetectable or suppressed (less than or equal to 1,000 copies/mL).
- Offer PrEP to the HIV-negative partner if the other partner, who is living with HIV, still has detectable viral load. PrEP should be used until the partner living with HIV has achieved viral suppression. Some HIV-negative partners may choose to continue with PrEP even after this point.
- Reassure the couple that this new approach means conception by artificial insemination is no longer necessary.
- Inform the couple that both partners need to be screened and treated for any other STIs before trying for conception.

For information on family planning methods for people living with HIV, see *Contraceptives for Clients With STIs, including HIV*, p 349.

## Choosing a Dual Protection Strategy

Family planning providers can talk to clients about how they can protect themselves both from STIs, including HIV, and from pregnancy (known as “dual protection”).

### ***Strategy 1: Use male or female condoms consistently (with every sex act) and correctly***

- One method is used to help protect against both pregnancy and STIs.

### ***Strategy 2: Use male or female condoms consistently and correctly plus another family planning method***

- Using two methods provides extra protection from pregnancy in case the condom is not used, is used incorrectly, or breaks.
- This strategy may be a good choice for those who want to feel reassured about avoiding pregnancy if they cannot always be sure of consistent and correct condom use.

**Strategy 3: *If both partners know that they are not infected with any STIs, or if one partner is living with HIV but has achieved viral suppression through ART, then use any family planning method to prevent pregnancy and agree to stay in a mutually faithful relationship***

- Many family planning clients believe they are in this group and thus feel protected from STIs, including HIV, without using condoms.
- This strategy depends on good communication and trust between partners.

Another dual protection strategy, which does not involve using condoms or any other contraceptives, is:

**Strategy 4: *Engage only in sexual intimacy that avoids penetration or otherwise prevents semen and vaginal fluids from coming into contact with each other's genitals or mouths (for example, mutual masturbation)***

- This strategy may not prevent syphilis, genital herpes, genital warts, or other infection with HPV, depending on the type of physical interaction that occurs. These STIs can be spread by skin-to-skin contact.
- This strategy depends on good communication, trust, and self-control.
- If this is the couple's first-choice strategy, it is best to have condoms available in case penetrative sex occurs.

Many clients will need help, support, and guidance to make their dual protection strategy succeed. For example, they may need help preparing to talk with their partners about STI protection, learning how to use condoms and other methods of contraception, and handling practical matters such as where to get supplies and where to keep them. Providers unable to help with such matters should refer the client to someone who can provide more counseling or skills-building, such as role-playing to practice negotiating condom use.

# Contraceptives for Clients With STIs, Including HIV

People with STIs and HIV (regardless of whether they are taking ART) can start and continue to use most contraceptive methods safely. There are a few limitations, however, as described in the table below. Each contraceptive method chapter in this Handbook (Chapters 1–20) also provides more information and considerations for clients with HIV, including those taking ART.

## Special Family Planning Considerations for Clients with STIs, including HIV

Method	Has STIs	Has HIV
<b>Intrauterine device (IUD):</b> copper-bearing IUD (Cu-IUD) or levonorgestrel-containing IUD (LNG-IUD)	<ul style="list-style-type: none"> <li>Do not insert an IUD in a client who is at very high individual risk for gonorrhea and chlamydia, or who currently has gonorrhea, chlamydia, purulent cervicitis, or pelvic inflammatory disease (PID). However, a current IUD user who becomes infected with gonorrhea or chlamydia or develops PID can safely continue using the IUD during and after treatment for the infection.</li> </ul>	<ul style="list-style-type: none"> <li>A client living with HIV clinical disease that is mild or with no symptoms (WHO Stages 1 or 2), including a client on antiretroviral therapy (ART), can have an IUD inserted.</li> <li>Generally, a client should not have an IUD inserted if they have HIV clinical disease that is severe or advanced (WHO Stages 3 or 4).</li> <li>A current IUD user who becomes infected with HIV or whose HIV clinical disease becomes severe or advanced (WHO Stages 3 or 4) can safely continue using the IUD.</li> <li>A client using an IUD can keep the IUD in place when they start ART.</li> </ul>

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Method	Has STIs	Has HIV
<b>Female sterilization</b>	<ul style="list-style-type: none"> <li>If the client has gonorrhea, chlamydia, purulent cervicitis, or PID, delay sterilization until the condition has been treated.</li> </ul>	<ul style="list-style-type: none"> <li>Clients living with HIV, including those on ART, can safely undergo female sterilization.</li> <li>The procedure may need to be delayed in clients with severe or advanced HIV clinical disease (WHO Stages 3 or 4) if the client currently has an HIV-related illness.</li> </ul>
<b>Vasectomy</b>	<ul style="list-style-type: none"> <li>If the client has scrotal skin infection, active STI, or swollen, tender tip of penis, sperm ducts, or testicles, delay vasectomy until the condition has been treated.</li> </ul>	<ul style="list-style-type: none"> <li>Clients living with HIV, including those on ART, can safely undergo vasectomy.</li> <li>The procedure may need to be delayed in clients with severe or advanced HIV clinical disease (WHO Stages 3 or 4) if the client currently has an HIV-related illness.</li> </ul>
<b>Spermicides</b>	<ul style="list-style-type: none"> <li>Can be used.</li> </ul>	<ul style="list-style-type: none"> <li>Generally, clients living with HIV should not use spermicides (the risks usually outweigh the advantages).</li> </ul>
<p><b>All hormonal methods (except hormone-releasing IUDs)</b> can be used by any client with STIs, including HIV.</p>		

# Cervical Cancer

## What Is Cervical Cancer?

Cervical cancer results from uncontrolled, untreated growth of abnormal cells in the cervix. Human papillomavirus (HPV), an STI, can cause abnormal cells on the cervix to develop and grow.

HPV is found on skin in the genital area and also in the tissues of the vagina, cervix, and mouth. It is primarily transmitted through skin-to-skin contact. Vaginal, anal, and oral sex can also spread HPV, as can digital contact. Over 40 types of HPV can infect the cervix but only 14 of them (referred to as the oncogenic or high-risk HPV types) can cause pre-cancer changes to the cells on the cervix. Of these high-risk types, 2 types (HPV 16 and 18) cause more than 70% of cervical cancers, with five additional types of HPV (HPV 31, 33, 45, 52, and 58) causing an additional 20% of cervical cancers. Overall, more than 95% of all cervical cancers are due to HPV, while approximately 5% are attributable to HIV (women living with HIV are more likely to develop cervical cancer). Two other types of HPV (HPV 6 and 11) cause most cases of genital warts.

Most sexually active women are infected with at least one type of HPV during their lives. In most cases the HPV infection clears (goes away) on its own. In some clients, however, HPV persists and causes cervical pre-cancer lesions, which can develop into cancer. Overall, less than 5.5% of clients 30–44 years of age with persistent HPV infection get cervical cancer.

Cancer of the cervix usually takes at least 10 to 20 years to develop. This means there is a long period of opportunity to detect and treat early cervical cell changes before they become cancer. This is the goal of screening and treatment for cervical pre-cancer lesions.

## Who Is at Greatest Risk for Cervical Cancer?

Some factors make clients more likely to be infected by HPV. Other factors enhance the persistence of high-risk types of HPV infection and progression to cervical cancer. Every client benefits from screening and treatment of cervical pre-cancer lesions, but the following factors and characteristics increase the risk of being infected with HPV, developing a persistent HPV infection, and developing cervical pre-cancer or cancer:

- Having multiple sexual partners and/or having a partner who has multiple sexual partners
- Having had many sexual partners over the years, and/or having a sexual partner who has had many sexual partners over the years
- Having a weakened immune system (including those living with HIV, who have 6 times the risk of developing cervical cancer compared with those who don't have HIV)

- Having other STIs, such as genital herpes, chlamydia, or gonorrhea
- Being young at the time of first intercourse/first birth
- Being a tobacco smoker
- Having a partner who is not circumcised.

## Screening and Treatment

Screening for cervical pre-cancer lesions is simple, quick, and generally not painful. Cervical screening should start at age 30 years, or at age 25 for those who are living with HIV. The recommended frequency of screening depends on the screening test used and whether a client is living with HIV. Any cervical pre-cancer lesions (cell changes) that are detected must be treated, whether immediately after a positive primary test, or only after a positive second “triage” test. Further details on screening tests, screening frequency, and treatment are provided below.

### Screening Tests

There are 3 different screening tests that may be used, depending on the capacity and conditions in a region. If available, the recommended primary screening test is an HPV nucleic acid amplification test (HPV NAAT). The other 2 types of screening tests are cytology and visual inspection with acetic acid (VIA).

1. **HPV NAATs** are available in 2 types: HPV DNA NAATs or HPV mRNA NAATs.
  - HPV DNA NAATs detect the presence of a virus by detecting the viral DNA.
  - HPV mRNA NAATs detect the proteins that cause the HPV-mediated pre-cancer changes of the epithelial cells.

For clients living with HIV, only HPV DNA NAATs are recommended. For clients without HIV, both types of HPV NAATs can be used, but an HPV DNA NAAT is recommended as the preferred primary screening test. Only samples for HPV DNA NAATs may be self-collected.

2. **Cytology** (conventional Papanicolaou [Pap] smear or liquid-based cytology [LBC]) requires collecting a small amount of cells from the cervix. The sample is sent to a laboratory for analysis. Using cytology requires a well-functioning lab that has quality assurance systems in place.
3. **VIA** involves looking at the cervix with the naked eye 1 minute after applying a weak vinegar (3–5% acetic acid) solution to it. Maintaining a well-functioning VIA screening program requires training and supervision of providers and ongoing quality control.

## Screening Approaches

Two screening approaches can be considered:

- a. In a **screen-and-treat approach**, the decision to proceed with treatment is made without triage testing (no second screening test and no histopathological diagnosis). HPV NAATs are the recommended screening test in this approach, but VIA can also be used in a screen-and-treat approach while transitioning to the use of HPV NAATs.
- b. In a **screen, triage, and treat approach**, when the primary screening test is positive, the decision to proceed with treatment is based on the result of a second/triage test. HPV NAATs are the recommended primary screening test in this approach, but cytology can also be used in a screen, triage, and treat approach while transitioning to the use of HPV NAATs.
  - i. **If an HPV NAAT is used as the primary screening test**, then triage tests can be HPV 16/18 genotyping, VIA, colposcopy, or cytology followed by colposcopy. After a positive primary screening result with an HPV NAAT but a negative triage test result, clients do not need treatment, but they do need appropriate follow-up evaluation, and this should be at 2 years for the general population of women, and at 1 year for those living with HIV.
  - ii. **If cytology is used as the primary screening test**, then the triage test is colposcopy. Women who have screened positive on a cytology primary screening test and then have normal results on colposcopy should be retested with HPV DNA NAATs at 12 months and, if negative, move to the recommended screening interval (see below).

After a positive primary screening test result and a positive triage test result, clients should receive treatment immediately or be referred for treatment or further evaluation.

## Starting age and interval of screening

- For the general population of women, starting at age 30, HPV DNA NAATs are the recommended screening test in a screen-and-treat approach and also the recommended primary screening test in a screen, triage, and treat approach, with a screening interval of 5–10 years. HPV mRNA NAATs may also be used, with a screening interval of 5 years.
- For the population of women living with HIV, starting at age 25, HPV DNA NAATs are the recommended primary screening test and a screen, triage, and treat approach is suggested rather than in a screen-and-treat approach, with a screening interval of 3–5 years.
- Where HPV testing is not yet operational, WHO suggests a regular screening interval of every 3 years when using VIA or cytology as the sole or primary screening test among both the general population of women and those living with HIV.

- While transitioning to a program with a recommended regular screening interval, screening even just twice in a lifetime is beneficial among both the general population of women and women living with HIV.

## Treatment Methods

**Screening without treatment does not prevent cervical cancer. If a client screens positive, then treatment (immediately or after further evaluation) must be provided to prevent progression of pre-cancer to cancer.** The areas of the cervix that have been identified as abnormal can be removed either by ablation or excision. Ablation is the destruction of the abnormal tissue by freezing with a probe (cryotherapy) or using heat (thermal ablation). Excision involves surgically removing the abnormal tissue using large-loop excision of the transformation zone (LLETZ) or cold knife conization (CKC). Only excisional treatment will result in a tissue specimen for histological examination. Ablation is less effective for larger growths, but excision requires more extensive training and use of local anesthesia on the cervix. No hospital stay is needed for either type of treatment. Both treatments are generally well-tolerated and effective, and every effort should be made to provide treatment at the same facility where screening occurs, and at the same visit when screening occurs. Before treatment, women who have not yet been screened with VIA should be visually inspected using acetic acid to determine transformation zone type, rule out suspected cervical cancer, and determine eligibility for ablation. After treatment, women need to be followed up at 1 year.

## Vaccine Available for Prevention

In the mid-2000s, the European Union and the United States Food and Drug Administration approved 2 vaccines against cervical cancer, pre-cancer, and genital warts. Both of these vaccines protect against HPV types 16 and 18, which cause over 70% of cervical cancers. Cervarix protects only against those 2 HPV types, while Gardasil also protects against infection by HPV types 6 and 11, which cause 90% of genital warts. Both vaccines are most effective when administered to clients before they become sexually active. In 2018, Gardasil-9 became available; this newer HPV vaccine protects against an additional 5 types of HPV types that cause another 20% of cervical cancers. Recently, Cecolin, an HPV vaccine manufactured in China, has also received WHO Prequalification.



# Questions and Answers About STIs, Including HIV

## 1. Does having another STI mean a person is at greater risk of HIV infection if they are exposed to HIV?

Yes. In particular, infections that cause sores on the genitals, such as chancroid and syphilis, increase a person's risk of becoming infected if exposed to HIV. Other STIs also increase the risk of HIV infection.

## 2. Does using a condom only some of the time offer any protection from STIs, including HIV?

For best protection, a condom should be used at every act of sex, and used correctly. In some cases, however, occasional use can offer some protection. This depends on the risk of STI that the person is exposed to (which depends on the person's and their partner's sexual behavior, number of sexual partners, and the number of people infected in the same population group or geographic area). For people who are frequently exposed to STIs, including HIV, using a condom only some of the time will offer only limited protection.

## 3. Who is more at risk of becoming infected with an STI?

If exposed to STIs, women are more likely to become infected than men due to biological factors, because they have a greater area of exposure (the cervix and the vagina), and small tears may occur in the vaginal tissue during sex, providing a pathway for infection. All people who have anal sex are at greater risk of an STI for the same reasons.

## 4. Can STIs be transmitted through oral sex (mouth on penis or vagina)?

Yes. Herpes, syphilis, hepatitis B, HPV, chlamydia, and gonorrhea can be transmitted through oral sex.

## 5. Can STIs be transmitted through anal sex (penis in anus)?

Yes. STIs, including HIV, are commonly transmitted through anal sex. Unprotected anal sex carries the highest sexual risk of HIV transmission. The use of condoms with lubricants is the best way to protect against STIs during anal sex.

## **6. Will washing the penis or vagina after sex lower the risk of becoming infected with an STI?**

Genital hygiene is important and a good practice. There is no evidence, however, that washing the genitals prevents STI infection. In fact, vaginal douching increases the risk of acquiring STIs, including HIV, and pelvic inflammatory disease. If exposure to HIV is certain, the use of post-exposure prophylaxis (PEP) prevents HIV acquisition. If exposure to other STIs is certain, PEP for STIs should also be used.

## **7. How well do condoms help protect against HIV infection?**

On average, among heterosexual couples, when one partner is HIV-positive and the other is HIV-negative, condoms offer at least 80% protection against HIV when used at every act of sexual intercourse. For insertive anal sex, condoms offer at least 63% protection, and for receptive anal sex, the protection is at least 72%. However, these estimates are based on self-reported condom use. They may, therefore, overestimate the true level of protection.

The likelihood that a person who is exposed to HIV will become infected can vary greatly. The chance of infection depends on several factors:

- **Stage of HIV infection:** The first weeks after a person becomes infected are when they are most infectious and it is likely their serostatus will not be known at this early stage of infection.
- **Viral suppression by antiretroviral therapy (ART):** There is no risk of HIV transmission if ART is taken properly and viral load has become undetectable.
- **Type of sex act:** Receptive anal sex confers the highest risk, followed by vaginal sex; transmission through oral sex is negligible.
- **Presence of other STIs:** HSV-2 (genital herpes) increases the risk of HIV 3-fold, syphilis 2-fold and trichomoniasis 1.5-fold.
- **Male circumcision status:** Male circumcision can reduce the risk of HIV infection by 50–60% among those who have vaginal sex with a female partner.