



Understanding Sexually Transmitted Infections

Second Edition



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Toward effective prevention, diagnosis and treatment

Building awareness

In Canada and around the world, the trend is clear: sexually transmitted infections (STIs) are on the rise.

One of the primary defenses in the fight against STIs is awareness. With the right information, individuals can make informed choices and better protect themselves and their partners.

An important reference

This booklet is designed to optimize sexual health through STI prevention, testing/screening, diagnosis, and timely treatment.

A quick reference guide for health professionals, counsellors and educators, it provides details of specific infections including infection characteristics, means of transmission, signs and symptoms, and methods for testing/screening, treatment, management and prevention.

Every case is different

Many STIs are asymptomatic. Often, the only way to detect an infection is through screening.

Individuals who suspect they may have been infected should be encouraged to seek medical attention immediately, rather than waiting for the onset of visible symptoms.

Informing your partner

Partner notification is critical to prevent further spread of STIs and prevent complications. It can be difficult to talk with a sexual partner about health problems, especially when they involve sexual health or a sexually transmitted infection. However, it is important for anyone who suspects they've become infected or tests positive for an STI to ensure that current and previous partners are made aware so they can seek medical attention and treatment if needed.

Support is available

If infected individuals are uncomfortable informing partners themselves, they may ask their health-care professional to contact their partner(s) for them. This is done confidentially, meaning the patient's name is never revealed to notified partners.

Precautions

Once an infection is detected, it is recommended that infected individuals and their sexual partner(s) abstain from sexual activity until treatment is complete (for treatable STIs), symptoms have subsided, and the infection is cured (for curable STIs, confirmed through follow-up testing, as appropriate). Partners should consult a health professional for direction on when sexual relations can be resumed. In the case of viral STIs, a health-care professional can offer safer-sex and risk-reduction tips to prevent transmission.

Condoms are important to reduce the risk of transmission, even if other methods of birth control are being used to prevent pregnancy.

Bacterial

Chlamydia
Gonorrhea
Syphilis

Viral

Genital Herpes
Hepatitis B
HIV (Human Immunodeficiency Virus)
HPV (Human Papillomavirus)

Parasitic

Pubic Lice/Scabies
Trichomoniasis

Fungal

Candidiasis (Yeast Infection)

Bacterial Vaginosis (BV)

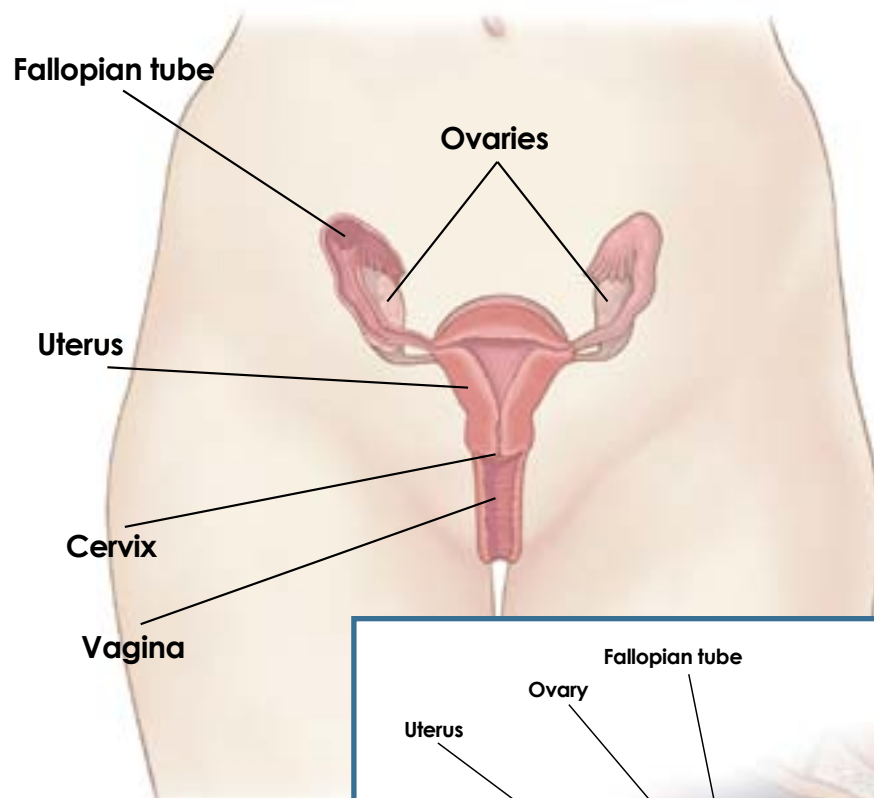
Testing Methods

Prevention

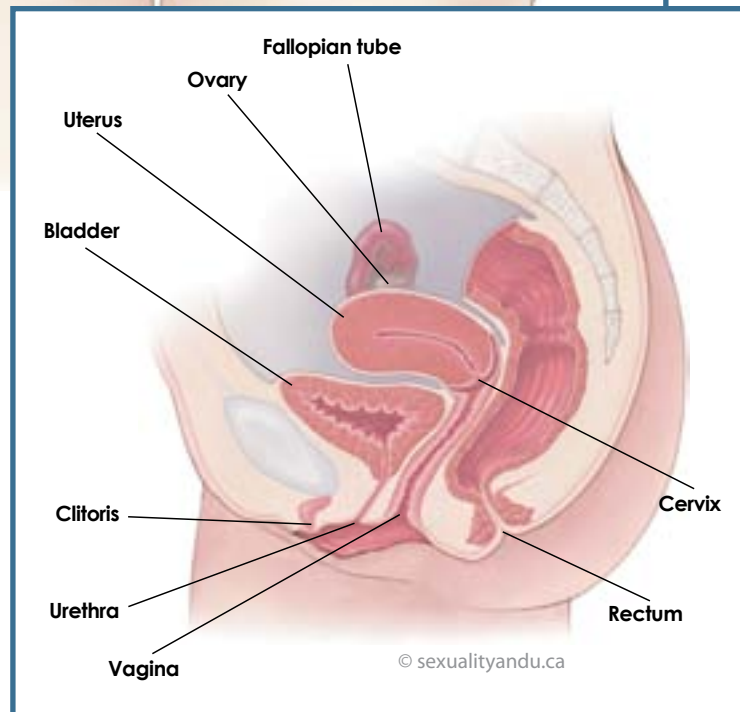
Treatment

ANATOMY

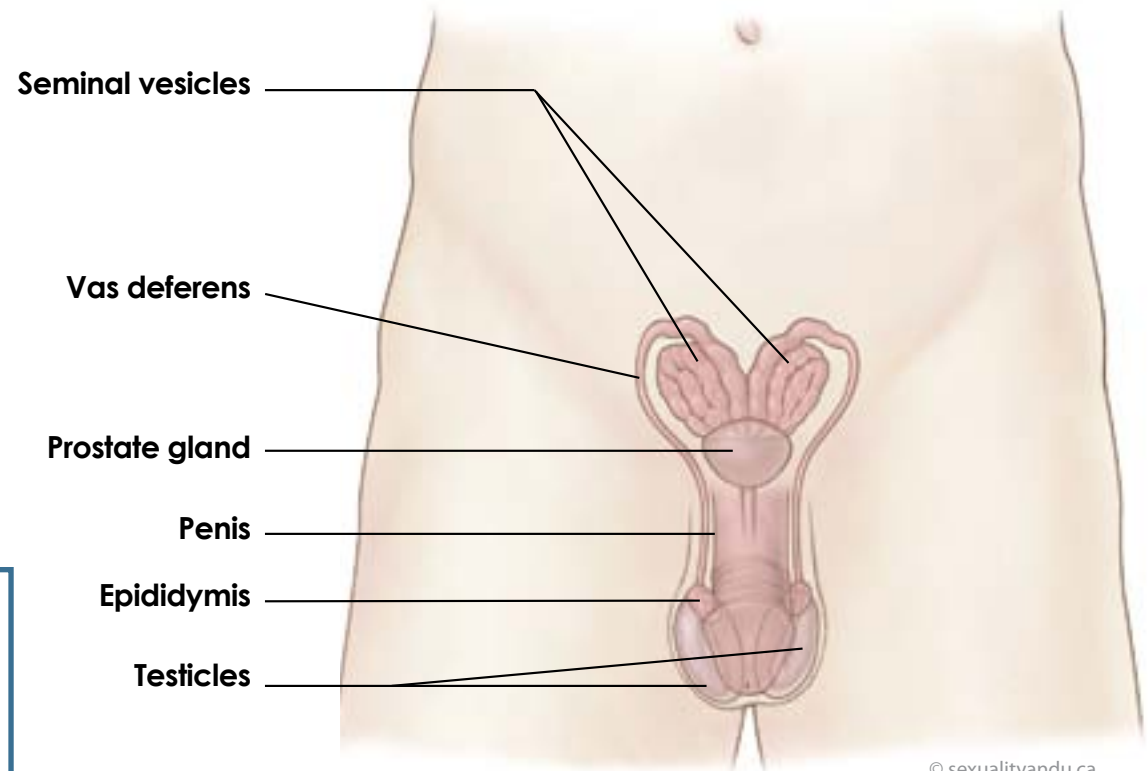
Female and Male Reproductive Systems



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An often-asymptomatic infection that can lead to reproductive complications

What is it?

- The most common bacterial sexually transmitted infection
- Greatest number of infections found in people 15 to 24 years old
- Can affect the cervix, urethra, and occasionally the rectum, throat, and eyes

How is chlamydia transmitted?

- Chlamydia can be spread through unprotected oral, vaginal or anal sex with an infected partner.
- Penetration and ejaculation are not required for transmission.
- It can be passed from an infected mother to her infant during birth, causing lung and/or eye infections.

What are the signs and symptoms?

- Many infected individuals have no symptoms.
- Symptoms may occur from two to six weeks after initial exposure to the bacteria.

Female

- Vaginal discharge
- Painful urination
- Lower abdominal pain
- Vaginal bleeding after intercourse or between menstrual periods
- Pain during intercourse
- Eye or rectal infection (rarely)

Male

- Clear, watery or milky urethral discharge
- Itchy urethra
- Painful urination
- Testicular pain
- Eye or rectal infection (rarely)

Considerations and possible complications

- Chlamydia is often associated with other undetected or untreated infections.
- Individuals infected with chlamydia are at increased risk of contracting and transmitting HIV.

Female

- Infection spreading to the uterus and Fallopian tubes (pelvic inflammatory disease)
- Risk of ectopic pregnancy
- Infertility
- Chronic pelvic pain
- Rashes, sores and joint pain

Male

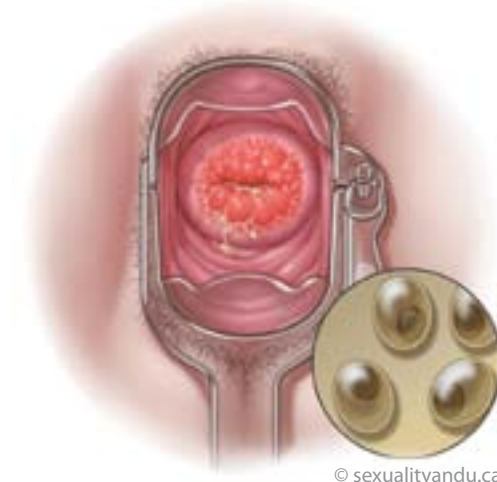
- Inflammation of the testicles, prostate and scrotum
- Rashes, sores and joint pain
- Infertility (in rare cases)

Chlamydia

Clear or milky urethral discharge may be a symptom of chlamydia in men.



Although chlamydia is usually asymptomatic in women, it may present with inflammation of the cervix.



BACTERIAL

Gonorrhea

An often-asymptomatic infection that can lead to reproductive complications

What is it?

- The second most common bacterial STI
- Two-thirds of reported cases in Canada are in men
- Most common in individuals 15 to 29 years old
- Can affect the cervix, urethra, rectum, throat, and occasionally the eyes
- Often occurs as a co-infection with chlamydia

How is gonorrhea transmitted?

- Gonorrhea can be spread through unprotected oral, vaginal or anal sex with an infected partner.
- Penetration and ejaculation are not required for transmission.
- It can be passed from an infected mother to her infant during birth, causing an eye infection.

What are the signs and symptoms?

Female

Women are most often asymptomatic. Those that do exhibit symptoms may experience:

- Increased vaginal discharge
- Painful urination
- Lower abdominal pain
- Vaginal bleeding after intercourse or between menstrual periods
- Pain during intercourse
- Rectal pain, discharge or itching

Male

Most men develop symptoms within two to seven days of infection:

- Thick, yellowish-green discharge from penis
- Painful urination
- Testicular pain or swelling
- Rectal pain, discharge or itching

Considerations and possible complications

- Gonorrhea is often associated with other undetected or untreated infections.
- Individuals infected with gonorrhea are at increased risk of contracting and transmitting HIV.

Female

- Infection spreading to the uterus and Fallopian tubes (pelvic inflammatory disease)
- Chronic pelvic pain
- Infertility
- Risk of ectopic pregnancy
- Systemic gonococcal infection

Male

- Inflammation of the testicles
- Rashes, sores and joint pain
- Infertility (in rare cases)
- Systemic gonococcal infection

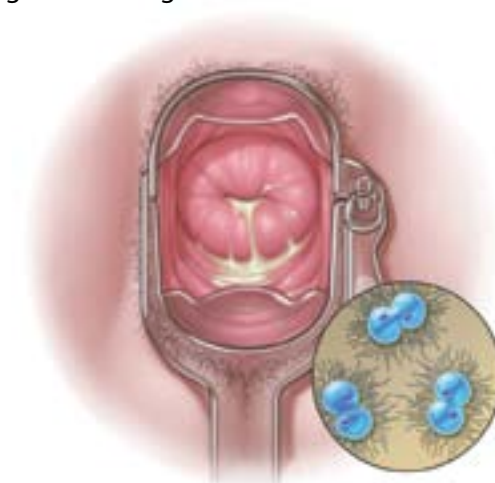
Gonorrhea

Yellowish-greenish discharge from the penis may develop in men within two to seven days of infection.



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Infected women who develop symptoms may notice an increase in vaginal discharge.



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A staged STI once considered rare in Canada, sometimes called the great imitator

What is it?

- An infection sometimes called the great imitator because signs and symptoms mirror those of some common medical conditions
- Progresses in stages
- Infectious in the first year after contraction

How is syphilis transmitted?

- Through oral, vaginal or anal sex with an infected partner
- Through direct contact with bacteria contained in syphilitic sores or rashes
- In rare cases, from sharing unclean needles or receiving a blood transfusion
- From an infected mother to her fetus, which can result in fetal death or congenital syphilis (causing birth defects)

What are the signs and symptoms of syphilis?

Primary syphilis

- Three days to three months after exposure, infected individuals develop small painless sores called a chancre.
- The sore appears where the bacteria entered the body (e.g. external genitalia, on the cervix, in the vagina, under the foreskin, in the anus, mouth or throat).
- The chancre is painless and can be missed easily; while it heals on its own without treatment, the infection remains.

Secondary syphilis

A person may develop a range of symptoms from two to 24 weeks after exposure, most commonly:

- A general feeling of being unwell
- A rash anywhere on the body and can include the palms of the hands or soles of the feet
- Patchy hair loss
- Flat, smooth warts in the genital area (not the same as those caused by HPV)

Early latent syphilis

Is asymptomatic, but for the first year after infection lesions or rashes of secondary syphilis can recur and the infection can be transmitted.

Late latent syphilis

Late latent syphilis is the stage diagnosed a year or more after infection. Late latent syphilis is asymptomatic and non-infectious.

Tertiary syphilis

Untreated syphilis may lead to tertiary syphilis, which can damage:

- The cardiovascular system (heart and blood vessels)
- The neurological system (dementia, loss of sensitivity)
- Other major organs of the body

Complications of tertiary syphilis may lead to death.

Congenital syphilis

Congenital syphilis can be a life-threatening infection for infants. A pregnant mother who has syphilis can spread the infection through the placenta to the unborn child. To decrease the risk of the unborn child becoming infected, the pregnant mother should be treated with antibiotics as early as possible.

Considerations and possible complications

- Syphilis increases the risk of transmitting or becoming infected with HIV.
- Response to treatment must be monitored by blood testing over time to ensure effectiveness, especially in HIV-infected individuals.
- In individuals with HIV co-infection, symptoms may be modified. A longer course of treatment and closer follow-up post-treatment may be required.
- Early syphilis can be associated with infection of the nervous system (neurosyphilis) which requires urgent referral.
- Partner notification is important; infected individuals should seek guidance from their health-care professional.

Syphilis

The first sign of syphilis in men is often a small, painless sore (chancre) on the penis.



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The chancre sore appears where the bacteria entered the body.



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VIRAL

Genital Herpes

A very common viral infection that can cause genital and anal sores

What is it?

- Herpes simplex virus (two types: HSV-1 traditionally associated with cold sores, and HSV-2, traditionally associated with anogenital herpes)
- May cause a single outbreak or recurrences over time

Recurrences may be triggered by:

- The menstrual cycle in women
- Emotional stress
- Illness (especially fever)
- Sexual intercourse
- Surgery
- Exposure to sun (including tanning beds)
- Use of certain medications

How is genital herpes transmitted?

- Through oral, vaginal or anal sex with an infected partner
- By receiving oral sex from a partner with a history of cold sores
- Through asymptomatic shedding. Because shedding occurs internally, it is almost impossible to tell when this is happening. Therefore, it is almost impossible to tell when a person is contagious. As a result the majority of transmission occurs during this period.
- From an infected woman to her infant during pregnancy or birth
- Less commonly through fomite transmission — contact with contaminated objects such as towels

Condoms have limited effectiveness at preventing infection as they do not cover the entire genital area.

What are the signs and symptoms?

- Symptoms may emerge two to 21 days after initial infection; usually after six.
- Not all infected people develop symptoms.

During an outbreak:

- Painful sores (external or internal)
- Inflammation and redness
- Fever
- Muscular pain
- Tender lymph nodes

Primary Occurrence

Patients often present with multiple lesions, pain, fever, lymphadenopathy, and possible urinary retention.

A primary outbreak resolves in 17 days for men and 23 days for women on average.

Subsequent Recurrences

Subsequent Recurrences resolve in 17 days for men and 7 days for women on average.

- Symptoms are more localized, with one or more lesions only.
- Prior to an outbreak, the infected person may feel a tingling or burning sensation where the virus first entered the skin or, in the case of a recurrence, where there were lesions. Signs and symptoms could recur in multiple locations at once over the body.

Atypical signs and symptoms (without lesions)

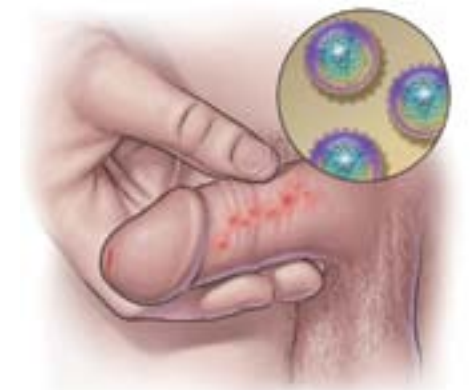
- Genital pain, urethritis, aseptic meningitis or cervicitis.

Considerations and possible complications

- Increased risk of transmitting or becoming infected with HIV
- Avoid sexual activity from the start of burning/tingling symptoms until all lesions have completely healed. It is important to note that this is not the only risky time. Transmission of the infection can take place at any time.
- Pay attention to personal hygiene to avoid fomite transmission.
- Be aware of the potential for recurrences; watch for signs and symptoms as they may not be obvious.
- Condoms and drug therapy can reduce but not eliminate the risk of transmission.
- Though chronic in nature, herpes is a manageable infection. Counselling may be useful to help with relationship issues.
- Advise your health-care professional of your history of infection; precautions can be taken during pregnancy and delivery to minimize risk of transmission to the baby.
- Asymptomatic shedding can be managed by suppressive antivirals which also decrease the risk of transmission considerably.

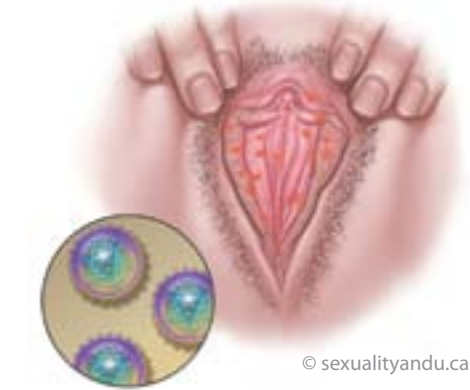
Genital herpes

During a herpes outbreak, blister-like sores often occur, surrounded by redness and inflammation.



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Herpes sores may develop on the vulva.



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A vaccine-preventable viral infection that affects the liver

What is it?

- A virus found in blood and body fluids including the vaginal secretions, semen, breast milk and saliva of infected individuals
- Most infected people (90%) naturally produce antibodies to fight the disease, but some develop chronic hepatitis B; they carry the virus all their lives and are infectious for life
- Chronic infection can significantly damage the liver
- Most common in developing countries

How is hepatitis B transmitted?

- Through oral, vaginal or anal sex with an infected partner
- Through exposure to infected blood or blood products (e.g. injection drug use with shared equipment, accidental exposure, needlestick)
- Occasionally from contact with shared household items (such as toothbrushes or razors)
- During childbirth (transmission from mother to infant)

What are the signs and symptoms?

In up to 50% of people, there are no outward signs of infection.

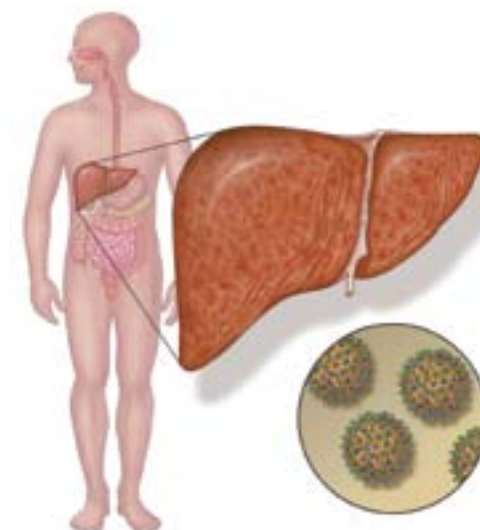
Up to eight weeks after exposure to the virus, some people experience flu-like symptoms including:

- Tiredness
- Nausea and vomiting
- Decreased appetite
- A rash
- Joint pain
- Yellowing of the eyes and skin (in rare cases)

Considerations and possible complications

- All sexual and household contacts of people with hepatitis B should be advised to be vaccinated to prevent infection.
- Chronic hepatitis B can lead to severe liver damage including cirrhosis (scarring of the liver) and cancer.
- Individuals who develop chronic hepatitis B infection require liver function monitoring and may benefit from treatment with an interferon or an antiviral medication.
- Babies born to mothers with hepatitis B are at a high risk of becoming chronic carriers. They should receive an injection of antibodies immediately after birth, followed by the vaccine. With the use of passive antibody and vaccine there is an extremely low risk of vertical transmission.

Hepatitis B



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People with chronic hepatitis B are at risk of suffering progressive liver disease and liver cancer.

VIRAL

HIV (Human Immunodeficiency Virus)

A virus that attacks the body's immune system, leaving infected individuals unable to ward off other illnesses

What is it?

- Virus that destroys cells critical to a person's immune system, robbing the body of its ability to fight other infections and illnesses
- AIDS stands for "Acquired Immunodeficiency Syndrome". A person with HIV infection is considered to have AIDS when the number of CD4 cells in their blood drops below a certain number or if they develop an "AIDS defining illness."

How is HIV transmitted?

When the body fluids of an infected person (blood, semen, pre-semen, vaginal secretions, breast milk) enter the blood stream of another individual—specifically from:

- Unprotected oral, vaginal or anal sex with an infected partner
- Use of contaminated sex toys
- Shared needles or other drug equipment (i.e. water, cookers, crack pipes)
- HIV-infected blood or blood products
- Transmission during pregnancy, childbirth or breastfeeding (transmission from mother to child)
- Increased transmission risks with Acute HIV infections.
- Increased risk of HIV acquisition/transmission when co-infected with Hep.C or any other STI
- HIV cannot be transmitted by mosquitoes or other insects that have made contact with infected blood, nor can it be transmitted through saliva, sweat, tears, urine or feces of infected individuals, unless blood is present.

What are the signs and symptoms?

Two to four weeks after exposure, some infected individuals may experience mild flu-like symptoms that last a few weeks then disappear.

For most people, symptoms don't emerge until years after exposure. Once the immune system is weakened, the following may develop:

- Frequent fever or sweats
- Joint or muscle pain
- Persistent skin rashes
- Swollen glands
- Sore throat
- Fatigue or lack of energy
- Headaches
- Rapid, unexplained weight loss
- Nausea, vomiting, or diarrhea

A blood test to check for HIV antibodies is the only way to detect HIV infection. It may take up to three months for an infection to be detectable. An individual may need to retest at a later date if recommended by their health-care professional.

AIDS can take many years to develop in a person with HIV. The average length of time from HIV infection to AIDS is about 10 years. There is no cure for HIV.

Considerations and possible complications

When diagnosed early, a large proportion of the population with HIV infection can go on to lead a relatively normal life and have an almost normal life expectancy through managed treatments.

In Canada, it is estimated that about a quarter of people with HIV do not know they are infected and risk transmitting the virus to others.

Partner notification is important; infected individuals should seek guidance from their health-care professional.

Examples of AIDS defining illnesses are:

- Infections: pneumocystis jiroveci (previously known as PCP), cytomegalovirus (CMV) causing loss of vision, candidiasis (esophageal, lungs, bronchial, vaginal), mycobacterium avium complex, mycobacterium tuberculosis
- Cancers: cervical, anal, kaposi sarcoma and lymphoma
- Increased frequency or severity of herpes outbreaks
- Conditions affecting the brain including toxoplasmosis
- Chronic intestinal disturbances

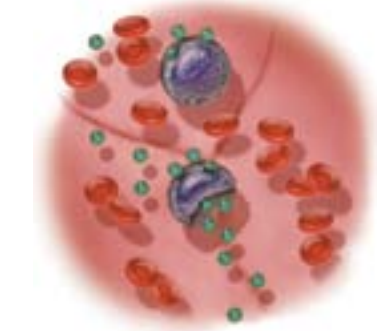
HIV

An individual who is diagnosed with HIV requires regular medical consultation.



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HIV destroys cells critical to the immune system, leaving carriers susceptible to other infections.



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HPV (Human Papillomavirus)

A very common viral infection that can cause anogenital warts and cancer

What is it?

- One of the most common sexually transmitted infections
- There are over 100 types of HPV; 40 can cause anogenital infection
- It is estimated that 75% of the sexually active adult population will have at least one HPV infection during their lifetime
- Low-risk HPV types cause anogenital warts and other benign lesions
- High-risk HPV types can cause 99% of cervical dysplasia and cancers.
- HPV has been linked to other types of cancers including cancer of the vagina, vulva, anus, penis, and head and neck (e.g. eye, mouth, throat and skin)
- Vaccination is available to prevent infection with certain types of HPV
- Most HPV infections clear on their own without medical intervention within one to two years

How is HPV transmitted?

- Through oral, vaginal or anal sex with an infected partner
- Other sexual activity with intimate contact (genital rubbing or activity causing friction)
- To an infant during delivery (rare)

What are the signs and symptoms?

- Many individuals infected with low-risk types have no symptoms (do not develop visible warts or lesions).
- In some people, anogenital warts develop within one to eight months on the vulva, cervix, penis, scrotum, anus or in the urethra. These can be small, soft, flesh-coloured growths, with a cauliflower-like appearance.
- The size and number of warts may change over time; eventually most will clear.
- During pregnancy, warts may increase in size and number then regress/resolve after delivery.
- HPV infection is most commonly detected through an abnormal Pap smear.

Other symptoms may include:

- Itchiness
- Discomfort during intercourse
- Bleeding with intercourse

Considerations and possible complications

- Genital wart recurrences—common even with treatment
- Cervical, vulvar, vaginal, anal, penile and other cancers
- Obstruction of the urethra or vaginal opening
- Depression and sexual dysfunction in chronic cases
- Specialist referral is required for atypical and/or non-healing warts
- Counselling may be useful to help with relationship issues that may arise from the complex nature of the infection

HPV

Men with HPV may develop warts on the penis—small, flesh-coloured growths cauliflower-like in appearance.



Genital warts may appear on the vulva within one to eight months of infection.



PARASITIC

Pubic Lice & Scabies

Infections caused by parasitic infestations

What are pubic lice?

- Tiny crab-like insects that nest in pubic hair; also found in chest, armpit and facial hair, eyebrows and eyelashes
- Adult insects bite and feed on the blood of their host and lay small eggs (nits) that attach to the shaft of the hair

How are pubic lice transmitted?

- Transmission occurs primarily during intimate sexual and non-sexual contact.
- Pubic lice can live for one to two days in the bedding, towels and clothes of an infected individual. These items can be a source of transmission.

What are the signs and symptoms?

- Pubic lice and nits are small and can be difficult to spot. Infected individuals may experience:
- Skin irritation and inflammation accompanied by itchiness and redness
 - Small blue spots on the skin where lice have bitten
 - Louse feces (fine black particles) in the infected person's undergarments

What are scabies?

- Parasitic mites that burrow below the surface of the skin
- Eggs laid under the skin hatch; larvae move to new areas and spread infection
- Mites prefer warm zones (folds of skin on elbows, wrists, buttocks, knees, armpits, shoulder blades, waist, breasts and penis, between the fingers and under nails)

How are scabies transmitted?

- Through close contact—sexual or non-sexual
- Scabies can live for three days on the bedding, towels and clothes of an infected individual. These items can be a source of transmission.

What are the signs and symptoms?

- Within three to four weeks of infestation:
- Intense itchiness, especially at nighttime
 - Reddish rash
 - With recurrences, the same symptoms occur but more rapidly (within hours to days of a re-infestation)

Considerations and possible complications

- Persistent scratching of irritated skin can cause a secondary bacterial infection.
- All household contacts and recent sexual partners within the past month should be treated to prevent re-infestation.
- Clothes, bedding and other possible contaminated items should be washed or drycleaned, or bagged for three days to one week. Items that cannot be washed or bagged should be vacuumed.
- For scabies, severe infections are commonly seen in people with compromised immune systems: the skin can become scaly or crusty, requiring more complex and aggressive treatment.

Pubic lice (Crabs)

The insects bite their host to feed on blood.



Scabies (Mites)

Parasitic mites burrow below the skin's surface.



A sexually transmitted parasitic infection commonly referred to as trich

What is it?

An infection caused by *Trichomonas vaginalis*, a microscopic, single-celled organism that can be found in the urethra, bladder, vagina, cervix, or under the foreskin.

How is trichomoniasis transmitted?

- Through unprotected sexual activity, including mutual masturbation and sharing of sex toys

What are the signs and symptoms?

Female

About half of infected women show signs of infection including:

- off-white or yellowish-green frothy vaginal discharge
- sore or itchy vagina
- pain during intercourse or urination

Male

Trichomoniasis infections tend to be asymptomatic in men. When symptoms occur, they can include:

- irritation or redness at the urethral opening
- burning during urination or ejaculation

Considerations and possible complications

- Trichomoniasis infections can increase the risk of acquiring and transmitting HIV.
- Trich may occur in conjunction with other STIs such as gonorrhea, chlamydia, syphilis, HIV and hepatitis B.
- In pregnancy, trichomoniasis infection may increase the risk of pre-term delivery and low birth weight.
- Trichomoniasis, candidiasis, and bacterial vaginosis are three major causes of vulvovaginitis (infection or inflammation of the vulva or vagina).

Trichomoniasis

Half of infected women develop symptoms, including yellowish-green frothy vaginal discharge.



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Candidiasis (Yeast Infection)

A common fungal infection caused by overgrowth of the naturally occurring yeast *Candida*

What is it?

- 75% of women develop vaginal candidiasis at least once in their lifetime.
- *Candida* can also affect the mouth, esophagus, skin or blood.
- Yeast is normally found in a woman's vagina. When the fungus begins to grow in excess, it may develop into candidiasis.

Causes of overgrowth include:

- Pregnancy
- Recent or current use of antibiotics and certain other prescription medications
- Sexual activity
- Poorly controlled diabetes
- A weakened immune system
- Genital moisture retention caused by tight-fitting clothing

How is a yeast infection transmitted?

While a yeast infection can be transmitted sexually, it is not generally considered an STI.

Men sometimes develop signs of a yeast infection on the head (glans) of the penis after having intercourse with a woman with vaginal candidiasis. (She may have no symptoms.)

What are the signs and symptoms?

Female

Women with vaginal candidiasis may experience:

- Vaginal itching
- Swollen or red vulva and vagina

- Thick white, clumpy discharge resembling cottage cheese
- Burning of the external genitalia on urination
- Pain with intercourse due to vaginal dryness and irritation of the vulva

Male

Men with an infection of the penis may develop balanitis (inflammation of the head of the penis) and may experience:

- Itching
- Red dots on the tip of the penis
- Dry peeling skin
- Burning on urination (occasionally)

Considerations and possible complications

- Yeast infections can increase the risk of acquiring and transmitting HIV.
- Candidiasis may be confused with bacterial vaginosis.
- Candidiasis, trichomoniasis and bacterial vaginosis are three major causes of vulvovaginitis (infection or inflammation of the vulva or vagina).

Candidiasis

Women with candidiasis may experience swelling in the vulva or vagina accompanied by discharge resembling cottage cheese.



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Bacterial Vaginosis (BV)

The most common vaginal infection in women of reproductive age

What is it?

- Bacterial vaginosis (BV) is the most common lower genital tract disorder in both non-pregnant and pregnant women. It is caused by the imbalance of bacteria in the vagina.
- While BV is more common in women who are sexually active and is associated with sexual activity, it is not generally considered an STI.
- Increases the chances of contracting an STI.

How is BV transmitted?

- BV is not transmitted sexually, but is more common among women who have unprotected sexual activity including sharing of sex toys.
- More common among women with multiple partners.
- BV cannot be transmitted through toilet seats or swimming pools.

What are the signs and symptoms?

Not all infected people develop signs or symptoms. In cases where they do appear, the most common are:

- Vaginal discharge
- Malodour. (Odour may be increased after intercourse.)

Considerations and possible complications

- BV has been associated with women who smoke, use vaginal douches and are sexually active.
- BV can occur in virginal women.
- During pregnancy and delivery, BV can increase the risk of complications.
- Bacterial vaginosis, trichomoniasis and candidiasis are three major causes of vulvovaginitis (infection or inflammation of the vulva or vagina).

Testing/Screening

Physical examination, vaginal culture or wet preparation

Treatment

Can be treated with oral or vaginal antibiotics (metronidazole or clindamycin).

Decreasing the risks

Early identification and treatment of an STI can help decrease the possibility of complications, both for an infected individual and their sexual partner(s). This is especially true for women, as undetected and untreated infections can lead to pelvic inflammatory disease, ectopic pregnancy, chronic pelvic pain and even infertility.

When to get tested

- Individuals who suspect they may have contracted an STI should ask their health-care professional for guidance about when to get tested. Recommendations vary by type of infection.
- Regardless of symptoms, at-risk individuals should be screened regularly.
- Visible symptoms should not be the only reason for testing, as many infections are asymptomatic. If symptoms are not present or a person is infectious before symptoms appear, the infection can be unknowingly passed on to others.
- At the start of any new sexual relationship, it is a good idea for both partners to get assessed and screened for infections.
- Suspicion or diagnosis of an STI should prompt testing for other STIs if not already done.

The main methods of testing/screening are:

1. Swab from the urethra, cervix, vagina, penis, anus or throat
2. Urine test
3. Blood test

Approaches differ by infection and gender, and vary across the country.

Swab

Cervical and urethral samples may be collected for testing.



Urine test

For testing of certain STIs, a urine sample may be requested.



Blood test

For testing of some STIs, a blood sample is required.



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Bacterial

Chlamydia	Swab from the infected area; urine sample for men; urine sample for women where available, when a pelvic exam is not done or indicated
Gonorrhea	Swab from the infected area or a urine sample in cases where a swab is not an option
Syphilis	Blood test and/or swab from the sore

Viral

Genital herpes	Swab from sore(s) and/or blood test (currently not widely available for this STI)
HPV*	Physical exam for visible warts. Pap test to detect abnormal cells in the cervix
Hepatitis B	Blood test
HIV	Blood test

Parasitic

Trichomoniasis	Physical examination and vaginal swab
Lice(Crabs)/Scabies(Mites)	Examination of skin and hair

Fungal

Yeast infection	Physical examination and vaginal swab
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* Individuals infected with high-risk HPV types usually have no noticeable symptoms even though the virus may be causing changes at a cellular level. Currently, cervical cancer screening (primarily the Pap smear) is used to detect cellular changes in the cervix that may progress to cancer if not found early and treated if necessary. In some regions, HPV DNA testing is available and used in conjunction with the Pap test in cervical cancer screening.

PREVENTION

Barrier Methods

Preventative approaches are important to decrease the transmission of STIs

Blocking transmission

Proper use of barrier methods is critical. Barrier methods are very effective in the prevention of many sexually transmitted infections (STIs).

Male and female condoms made of latex and polyurethane offer the best protection.

Note: Latex and polyurethane condoms may not fully protect against herpes and HPV, as the viruses can be found in areas not covered by a condom.

Dental dams are an effective option for oral sex.

Male condom

A male condom is a sheath placed on an erect penis to prevent the exchange of fluids between partners during intercourse or oral sex. Latex condoms offer protection against the transmission of many STIs. Polyurethane condoms are also highly effective, but are more prone to breakage. Condoms made from sheep membrane are not effective barriers to STIs.

Female condom

A female condom is a polyurethane sheath worn inside the vagina during sexual intercourse. It has two rings—an inner one at the closed end, used to insert the condom and hold it in place behind the pubic bone; and an outer ring that remains outside the vagina. It should not be used with a male condom.

Use of the female condom has been reported for anal sex. Condom manufacturers do not recommend such use and little evidence exists to support its efficacy.

Dental dam

A dental dam is a thin square of latex that can be used as a shield during oral sex. The dam is placed over a woman's vulva, acting as a barrier between her genitals and her partner's mouth. They can also be used as a barrier when oral sex is performed on a partner's anus.

Dams are for sale in some pharmacies and sexual-health clinics, but can also be made using a condom or a latex glove. Simply unroll the condom, cut off the tip and base and cut down the length of the tube. Then unroll the condom into a rectangular sheet.

Cutting a condom to make a dental dam

1



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Male condom

A male condom prevents the exchange of fluids during intercourse.



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Female condom

The female condom is inserted into the vagina prior to entry by the penis.



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Chlamydia



Uncomplicated genital infections can be treated with antibiotics taken as a single dose or over the course of one week.

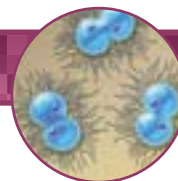
Complicated chlamydial infections (i.e. PID, neonatal, epididymitis) usually require a longer course of treatment and may require hospitalization for treatment with IV antibiotics.

Sexual partner(s) who have had contact with an infected person within 60 days of diagnosis require testing and treatment.

Abstinence from unprotected sexual intercourse until treatment is complete (seven days after a single dose treatment, or until all the medication is finished for a multiple dose treatment) is essential.

Anyone treated for chlamydia should be re-tested six months afterwards.

Gonorrhea



Uncomplicated gonorrhea is treated with antibiotics. Gonorrhea bacteria are becoming more resistant to some medications, requiring follow-up for treated infections.

Complicated gonorrhea infections (i.e. PID, neonatal, disseminated) usually require a longer course of treatment and may require hospitalization for treatment with IV antibiotics.

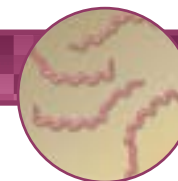
Patients treated for gonorrhea should also be treated for chlamydia unless concurrent test results for chlamydia are available and negative.

Sexual partner(s) who have had contact with an infected person within 60 days of diagnosis require testing and treatment.

Abstinence from unprotected sexual intercourse until treatment is complete (seven days after a single dose treatment, or until all the medication is finished for a multiple dose treatment) is essential.

Anyone treated for gonorrhea should be re-tested six months afterwards.

Syphilis



People infected with syphilis are typically treated with injectable penicillin. Other antibiotics can be used in some cases, but close monitoring is required.

Sexual partners must be notified so they may seek medical attention.

- For primary syphilis: partners from three months prior to the onset of symptoms
- For secondary syphilis: partners from six months prior to the onset of symptoms
- For early latent syphilis: partners from one year prior to the diagnosis

Response to treatment needs to be monitored. Therefore, follow-up is required.

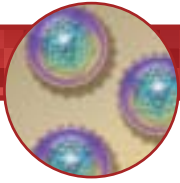
EXCEPTIONS

Pregnant and lactating women with STIs may require different forms of treatment to prevent harm to their fetus or newborn.

TREATMENT

Viral STIs

Genital Herpes

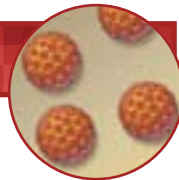


Antiviral medications—acyclovir, famciclovir and valacyclovir—to be started as early as possible following the onset of symptoms. Suppressive therapy can be considered for patients with frequent outbreaks (six or more times per year).

Other considerations for management during an outbreak:

- Pain relievers and laxatives
- Hospitalization, should urine retention become a problem

HPV (Human Papillomavirus)

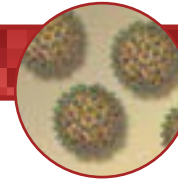


There is currently no cure for women and men infected with the virus. Vaccination is available to prevent certain types of HPV.

Depending on their size, number and location, genital warts can be treated using several different options, for example: strong acids and chemicals, topical cream, liquid nitrogen, electric currents or laser therapy.

Although partner notification is not required, patients are encouraged to notify their partners that they have had genital warts or an abnormal Pap smear.

Hepatitis B



There is no cure for hepatitis B, but a vaccine to prevent the infection is available.

Most individuals recover fully within about six months.

Individuals who are acutely infected with hepatitis B should abstain from sexual activity until their partner(s) have been screened and immunized if needed. Household contacts should also be screened and immunized if needed.

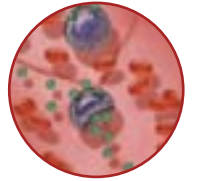
If an individual is exposed, an injection of antibodies may be given (up to seven days after a needlestick injury and up to 14 days after sexual contact), followed by the hepatitis B vaccine to help prevent infection.

Infants born to infected mothers should receive an injection of antibodies immediately after birth followed by the vaccine within 12 hours.

Individuals with acute infections usually do not need antiviral medications.

Those who develop chronic hepatitis B require monitoring of their liver function and may benefit from treatment with interferon or an antiviral medication.

HIV (Human Immunodeficiency Virus)



No cure exists for HIV/AIDS. Treatments are continually evolving, helping people living with HIV/AIDS control the virus and its symptoms.

Anti-retroviral therapy (ART) helps slow the progression of the infection and can help the immune system restore itself.

Though available HIV medications have lengthened the average time from infection to progression to AIDS, there are significant side effects that may affect quality of life. People on ART need to be monitored closely by a specialist for their response to treatment and side effects.

Individuals diagnosed with HIV should inform sexual partners of their status. Failure to disclose may have legal implications.

EXCEPTIONS

Pregnant and lactating women with STIs may require different forms of treatment to prevent harm to their fetus or newborn.

Trichomoniasis



Treated with medication, usually metronidazole. (No alcohol can be consumed during treatment and for 24 hours following the completion of treatment.)

Sexual partner(s) should be treated with metronidazole even if they do not have symptoms. Testing is usually not recommended for male partners.

Pubic Lice



The affected area should be washed and a lice-killing cream, lotion or shampoo used (can be obtained directly at a pharmacy). Itchiness may last for several weeks after treatment, which may be controlled with medication. Repeat treatment recommendations should be followed closely.

Sexual partner(s) within the last month should be treated.

Clothes and bedding must be washed in hot water or drycleaned, and mattresses should be vacuumed or, depending on the size, items may be placed in a sealed plastic bag for one week.

Scabies



Creams and lotions are available to treat scabies. These are typically applied and washed off in a specified amount of time.

Clothes and bedding must be washed in hot water or drycleaned, and mattresses should be vacuumed or, depending on the size, items may be placed in a sealed plastic bag for three days to one week.

All household contacts and sexual partners within the month prior to infection should be treated. Itching may continue for several weeks, so medication may be recommended. Repeat treatment recommendations should be followed closely.

Candidiasis (Yeast Infection)



Several over-the-counter antifungal tablets, creams, ointments and suppositories are available. These are inserted into the vagina for a period of one to seven days. They can also be applied externally to the vulva or penis.

In certain circumstances, oral medications are prescribed by a health-care professional.

For problematic recurrent infections, maintenance therapy may be recommended.

Some medications used to treat yeast infections are harmful if used in pregnancy. All pregnant women should seek medical advice prior to using any over-the-counter product.

Sexual partners do not need to be notified or clinically evaluated unless they have symptoms.

EXCEPTIONS

Pregnant and lactating women with STIs may require different forms of treatment to prevent harm to their fetus or newborn.



For additional information, visit:

sexualityandu.ca

Canada's leading website on sexual health

Administered by the Society of Obstetricians and Gynaecologists of Canada

www.sexualityandu.ca

Public Health Agency of Canada

In-depth information on chronic and infectious diseases

www.phac-aspc.gc.ca/std-mts

Canadian Federation for Sexual Health

Information about sexual and reproductive health and rights across Canada

www.cfsh.ca

Content based on the Canadian Guidelines on Sexually Transmitted Infections
2010 Edition

www.publichealth.gc.ca/sti

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