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Syphilis Fundamentals



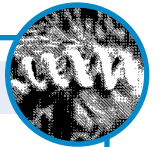
Updated January 2025

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1 Introduction to Syphilis

At the end of this unit, the learner will be able to:

- 1 Describe what syphilis is, its symptoms and progression.
- 2 Describe syphilis transmission and prevention.
- 3 Explain why syphilis testing is important, the basic methods and when people should get tested.
- 4 Explain the benefits of syphilis treatment, and treatment options.
- 5 Discuss how service providers working in community settings can support clients' syphilis prevention, testing and treatment needs.



Introduction

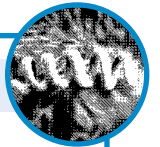
Syphilis is a sexually transmitted infection (STI) that is on the rise in Canada. If left untreated, syphilis can lead to serious health problems affecting the brain, nervous system, eyes, ears, skin, liver, kidneys, heart and bones. An untreated syphilis infection in a pregnant person can be passed to a fetus during pregnancy or to an infant during childbirth. This can lead to stillbirth, miscarriage or an infant being born with syphilis, which can result in very serious health and developmental problems. If syphilis is detected and treated early enough, it can be cured before it causes any serious health problems or gets passed to others. Having previously had syphilis does not make a person immune to this infection in the future. A person can get syphilis again after being cured.

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2 What is Syphilis?

Objective:

Describe syphilis, its symptoms and progression



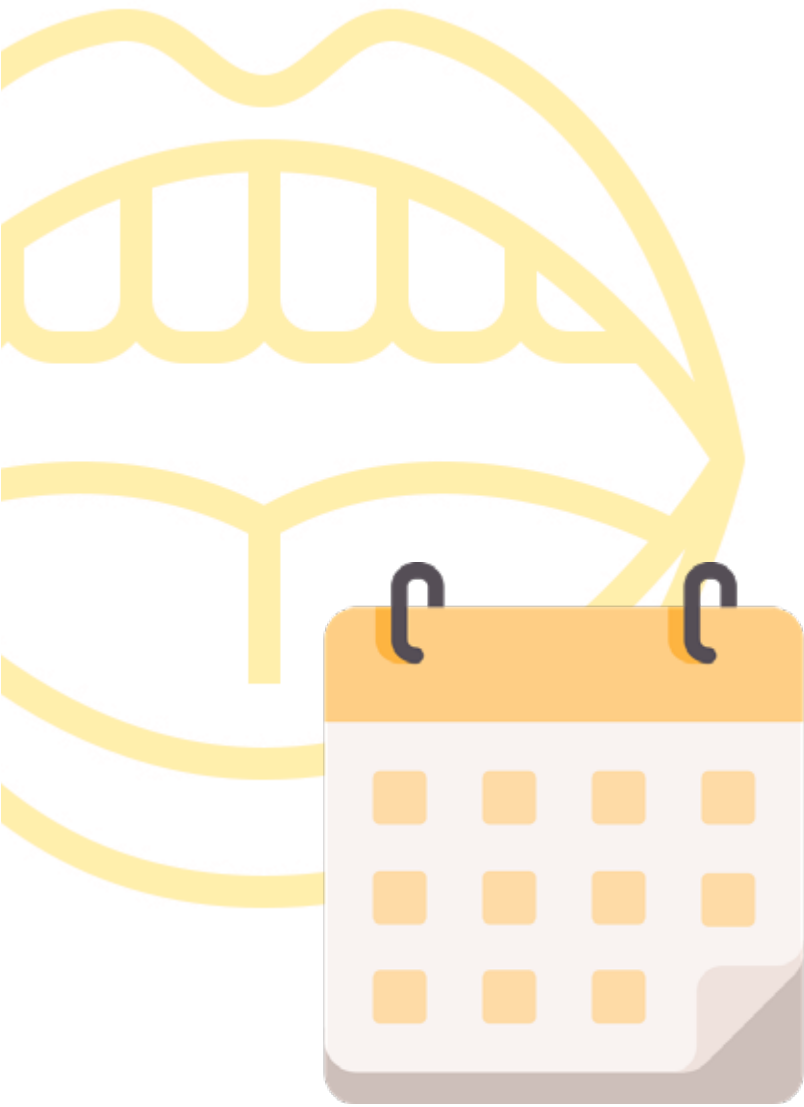
What is syphilis?

Syphilis is a sexually transmitted infection caused by a bacterium called *Treponema pallidum* or *T. pallidum*.

Many people with syphilis experience no symptoms or do not notice the symptoms. The symptoms they do notice can be easily mistaken for other conditions.

Untreated syphilis can progress, leading to worsening symptoms. There are three basic stages of untreated syphilis symptoms in adults:

- + **Primary syphilis** usually happens within three weeks after initial infection. Some people will notice a sore, called a chancre (shang-ker), on or in their genitals, rectum or mouth. Chancres are often painless and are sometimes in places out of sight, so a person may not know they have one. The chancre will heal on its own. However, even once it has healed, the person still has syphilis and can still pass on syphilis to others.



+ **Tertiary syphilis**, the third stage can begin a few years to decades after initial infection. Most people do not progress to this stage. For those who do, any organ in the body can become inflamed and damaged, including the brain, nervous system, eyes, ears, skin, liver, kidneys, heart or bones. This can result in problems with hearing or vision, nerve damage, erectile dysfunction, personality changes, memory problems, decreased capacity for judgment and insight, meningitis, loss of muscle control, damage to joints, seizures or stroke. Damage done at this stage can be permanent, even after the underlying syphilis infection has been cured. Syphilis is rarely passed to others during this stage.

Congenital syphilis

Syphilis passed from a pregnant person to a fetus or infant during pregnancy or childbirth is called **congenital syphilis**. Congenital syphilis can result in miscarriage, stillbirth or death of a newborn. It can also result in an infant being born with syphilis. Syphilis in infants and children can cause very serious health conditions and developmental disorders.



+ **Secondary syphilis** usually develops between four and 12 weeks after initial infection. Signs that syphilis has spread throughout the body may appear—such as a rash on the torso, palms or soles of the feet, or painless lesions called mucous patches on the wet tissues of the genitals, mouth, throat or tonsils. A person may experience fever, sore throat, headaches, patchy hair loss or swollen lymph nodes. Symptoms will go away without treatment, but syphilis can still be passed on to others even after symptoms have disappeared.

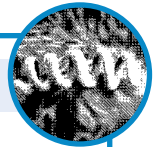
Syphilis symptoms can disappear any time after primary or secondary syphilis, even when the infection has not been treated. However, untreated syphilis stays in the body. This is called **latent syphilis**, and it can sometimes last for years, even decades. Latent syphilis within one year after infection is called **early latent syphilis**. Syphilis can still be passed during this period. Latent syphilis that is present more than a year after infection is called **late latent syphilis**. It is rare for syphilis to be passed to others during this period.

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3 Transmission and Prevention

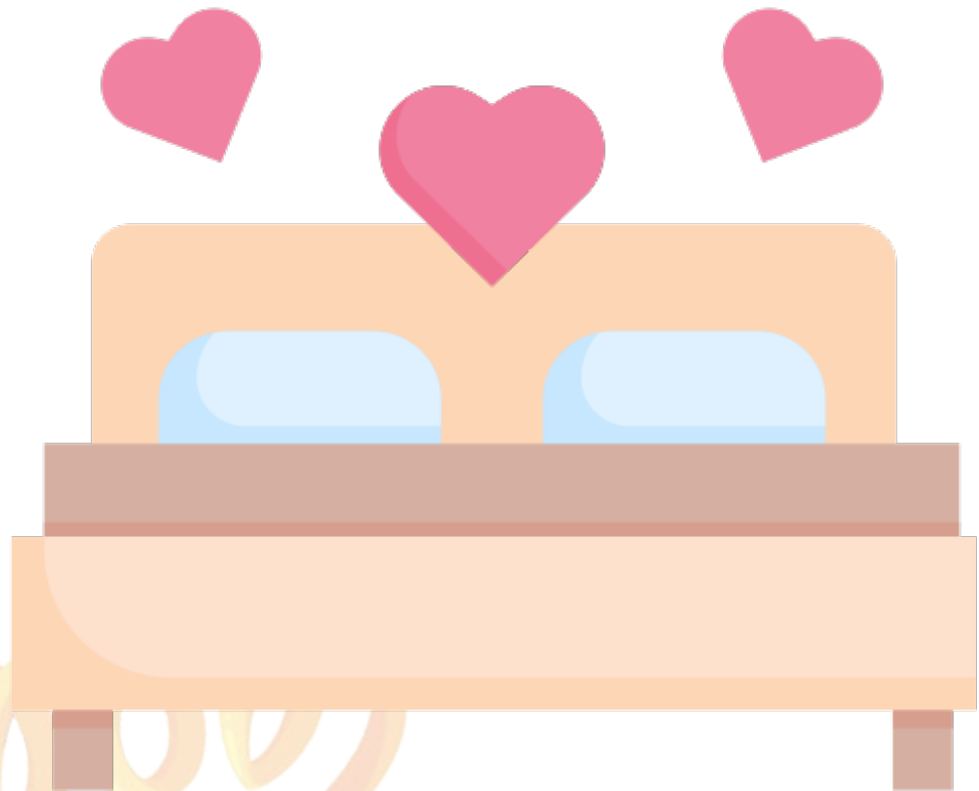
Objective:

Describe syphilis transmission and prevention



Sexual transmission and prevention

Syphilis is passed most often through genital, anal or oral sexual contact. The consistent and correct use of condoms during sex reduces the chance of passing or getting syphilis through sex, but it does not eliminate it. This is because condoms may not entirely cover syphilis chancres, which are highly contagious.





Transmission and prevention during pregnancy and childbirth

An untreated syphilis infection in a pregnant person can easily be passed to a fetus during pregnancy or to an infant during childbirth. This is called **perinatal transmission**. Syphilis can be passed to a fetus through the placental wall as early as nine weeks into pregnancy. Syphilis can also be passed to an infant during childbirth through contact with a syphilis chancre. Prenatal screening and treatment for pregnant people are the most important tools to prevent syphilis being passed to a fetus or infant. National guidelines recommend that all pregnant people be screened for syphilis within the first trimester, as part of prenatal care. Repeat screening in the third trimester and again at delivery is recommended for pregnant people who are at risk for infection or who live in areas with syphilis outbreaks.

A new approach to preventing syphilis uses the antibiotic doxycycline as prophylaxis. When used only after a condomless sexual encounter, it is called **doxycycline post-exposure prophylaxis**, or **doxy-PEP**. Doxy-PEP should be taken as soon as possible after sex but can be taken up to 72 hours after exposure. Research shows that doxy-PEP can help prevent syphilis among gay, bisexual and other men who have sex with men, and among transgender women. Research has also shown that doxy-PEP can protect against chlamydia and may provide some protection against gonorrhea in these populations. More research is needed to find out if doxy-PEP is effective in other populations, such as cisgender women and transgender men.

Doxycycline pre-exposure prophylaxis, or doxy-PrEP, is another approach to taking doxycycline to prevent syphilis. With doxy-PrEP, a person takes it both before and after condomless sexual encounters, usually every day. Evidence on the effectiveness of doxy-PrEP is limited, but studies are ongoing.

To access doxycycline prophylaxis, a person needs to find a healthcare provider willing to prescribe it. This may be difficult depending on where a person lives.



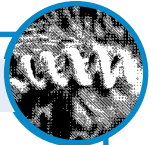
Transmission and prevention through injection drug equipment

Syphilis may also be passed through shared drug injection equipment, although this is rare. Using new equipment every time a person injects drugs will prevent them from getting syphilis when injecting drugs.



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4 Testing



Objective:

Explain why syphilis testing is important, the basic methods and when people should get tested

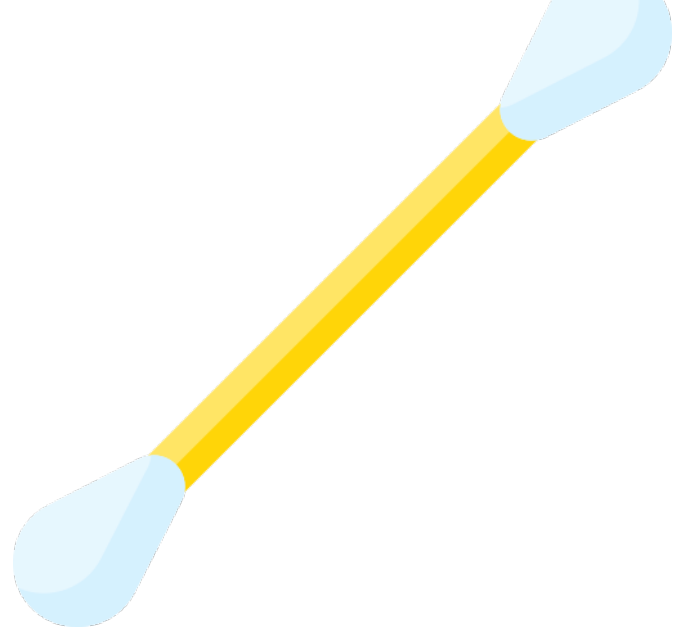
Many people with syphilis have no noticeable symptoms. The only way someone can know if they have syphilis is to get tested. The earlier a syphilis infection is detected, the better. Early detection allows syphilis to be treated and cured before it causes serious health damage or gets passed to someone else. This makes testing a critically important prevention tool.

Anyone who has had a potential exposure to syphilis or who has symptoms of syphilis should be offered a syphilis test or be referred to testing. If someone regularly participates in activities that can transmit syphilis, regular testing is recommended. National guidelines recommend that people with multiple partners should be screened every three to six months. Frequent testing allows people to be diagnosed and treated as soon as possible.



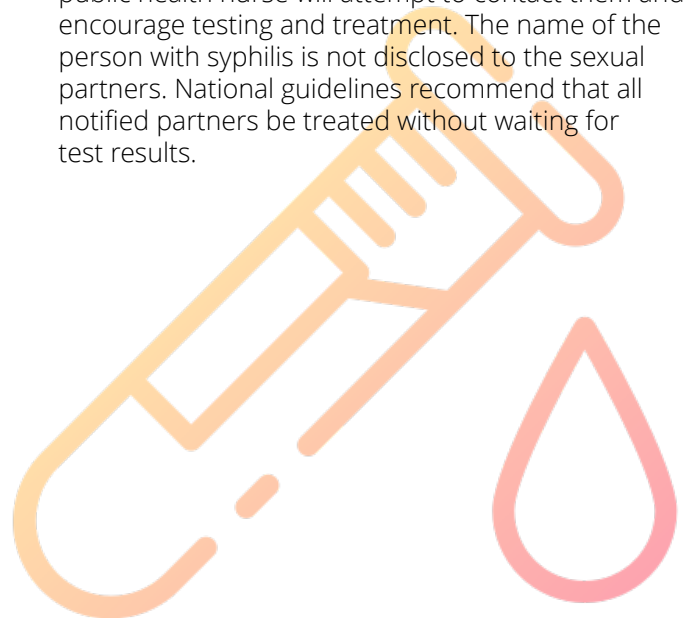
Syphilis tests should be done alongside tests for other sexually transmitted and blood-borne infections (STBBIs)—such as HIV, chlamydia, gonorrhea and hepatitis C—because these can be transmitted in the same ways as syphilis.

Syphilis testing usually involves providing a blood sample that is processed in a lab. In Canadian labs, the blood is usually first tested using a **treponemal test**. This test is very sensitive and can detect exposure to syphilis bacteria. However, a treponemal test cannot distinguish between a past and current syphilis infection—it can only tell you that a person either has syphilis or had it in the past. For this reason, if the first test is positive, a second test, called a **non-treponemal test**, is done using the same blood sample. This and other confirmatory tests can help verify that the person has a current syphilis infection.



Sometimes a swab is taken of a syphilis chancre. Swabs have limited use because they can only be done if a person has a chancre, and certain tests using swabs are not widely available.

According to national guidelines, when a person has a confirmed syphilis diagnosis, they should be asked to contact or provide contact information for all sexual partners within the trace-back period. The trace-back period is the time frame between when a person gets a syphilis infection and when their first symptoms appear, or, if they have no symptoms, when their test sample is taken. Because the exact date of initial infection may be hard to determine, an estimate is often made based on the suspected stage of infection: three months for primary syphilis, six months for secondary syphilis, and one year for early latent syphilis. If the person chooses to not contact their sexual partner(s), the healthcare provider or public health nurse will attempt to contact them and encourage testing and treatment. The name of the person with syphilis is not disclosed to the sexual partners. National guidelines recommend that all notified partners be treated without waiting for test results.

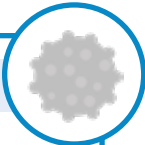


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5 Treatment

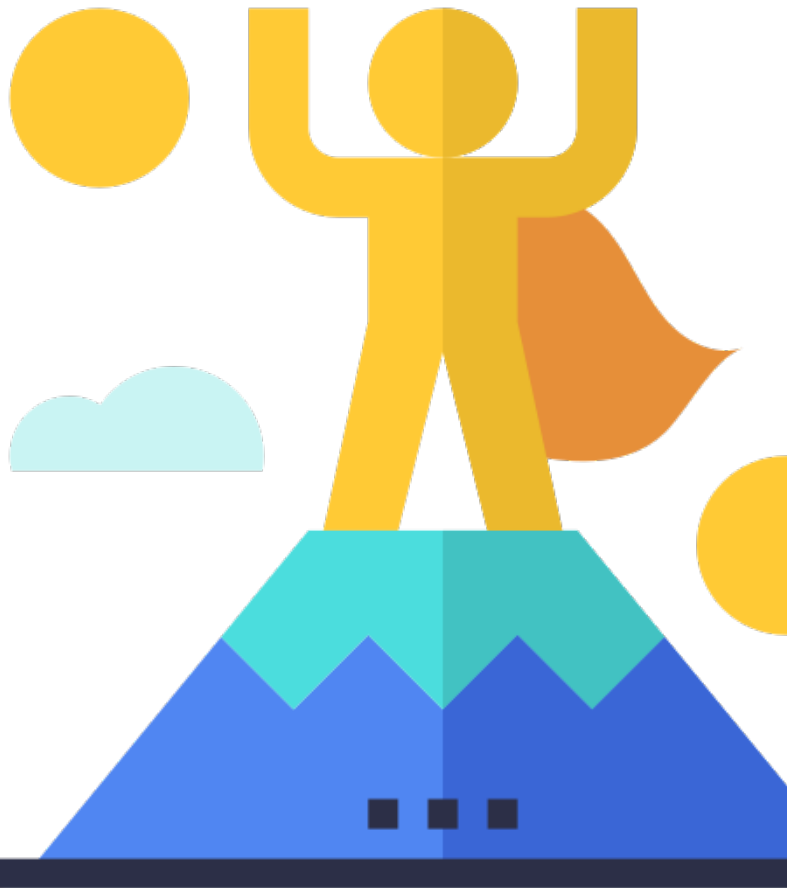
Objective:

Explain syphilis treatment options and the benefits of treatment



Syphilis infections can be cured. Early treatment keeps a syphilis infection from progressing and causing damage to a person’s health. Curing a syphilis infection also prevents a person from passing it on to others.

A person who tests positive for syphilis should be treated right away. In some cases, a healthcare provider may decide to provide treatment even before test results confirm the syphilis diagnosis—for example, if syphilis is strongly suspected but a person is hard to reach or unlikely to return for another visit.





Why are certain communities disproportionately affected by syphilis?

Many factors influence the health of people and communities. This includes individual factors (such as genetics and behaviours) and social and structural factors that influence people's ability to be healthy. These social and structural factors are sometimes called social determinants of health. Social determinants of health include factors that directly shape people's lives and their potential for self-determination—such as income, employment status, education level, housing stability, social inclusion and access to healthcare. Social determinants of health also include broad factors that influence how power and resources are distributed in a society. These include, for example, economic, social and health policies and systems, and cultural and political norms.

Unfair differences in the social determinants of health can result in unfair differences in health status. This is sometimes referred to as **health inequity**. Health inequity can be seen in the obstacles to good health experienced by members of some communities—such as poverty, homelessness, social exclusion, discrimination and inadequate healthcare. Health inequity can also be seen in broad structural obstacles to inclusion, resources and power—such as ongoing and historic colonialism, racism, homophobia, transphobia, sexism, drug criminalization and economic inequality.

Health inequity helps to explain why some communities are disproportionately affected by syphilis. These unfair differences negatively impact access to knowledge, resources and the stability needed to manage and maintain sexual health through prevention, testing and early treatment. Addressing these social factors is one important way to tackle the unfair burden of syphilis experienced by these communities.

According to national guidelines, the preferred treatment for most cases of primary, secondary and early latent syphilis is one dose of long-acting penicillin, called Bicillin, via two intramuscular injections in the buttocks. The advantage of injection is that it usually allows treatment to be completed in a single visit, although the injections can be painful. Alternatively, treatment can be taken orally. This involves taking doxycycline pills twice daily, usually for about two weeks. The disadvantage of pills is that treatment might be harder to complete because a person must remember to take the pills every day.

If a syphilis infection has progressed to the late latent or tertiary stage, treatment takes longer. In some cases, treatment may need to be given intravenously.

Being cured of a syphilis infection does not protect a person from getting syphilis again. Therefore, after a syphilis infection is treated, it is still important to practice safer sex and safer injection drug use and to get tested regularly if there is an ongoing risk of syphilis.

There is no vaccine to prevent syphilis.

Populations most impacted by syphilis in Canada

Syphilis can affect anyone, no matter their age, sex, gender, sexual orientation, race or ethnic origin. However, the following people experience a disproportionate burden of syphilis in Canada: young women; Indigenous people; gay, bisexual and other men who have sex with men people who use injection drugs; and people with a history of incarceration.

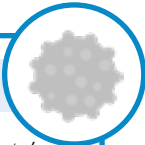


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6 Implications for service providers

Objective:

Discuss how service providers working in community settings can support clients' syphilis prevention, testing and treatment needs



Services that help to address syphilis-related health inequities

Addressing the marginalization underlying syphilis-related health inequity requires an approach to programs and services that is client-centered, culturally appropriate and welcoming for affected communities. This involves working with communities to develop and deliver services and drawing on their strengths; for example, integrating traditional Indigenous knowledge and wellness practices into health and social services. These strategies can help align programs and services with community and cultural norms and the realities of people's daily lives, improving uptake and engagement.



Another important part of addressing syphilis-related health inequities is supporting individual service users' self-identified social and health needs, including issues such as mental health, income, housing and substance use. Addressing these needs by linking people to relevant programs and services can put service users in a better position to support their own sexual health by engaging with STBBI prevention, testing and care.

Service providers can also play a role as advocates for system change to help improve the health system and the political, economic, social and environmental conditions affecting the communities they serve. For example, they might want to advocate for more equitable and accessible prenatal STBBI testing and care or increased access to new testing technologies that meet people where they are at.

Prevention education and counselling

Prevention education and counselling can help people lower their chances of getting or passing syphilis. This should include information on how syphilis is passed and effective prevention strategies. Testing and treatment should also be discussed as effective ways to avoid passing syphilis to others. Once a person decides which strategy or strategies to use, they may need support to

access and use them. This might include, for example, providing free access to condoms and lube, new injection equipment or information on accessing doxy-PEP. Education and counselling should also encourage a comprehensive plan for health and wellness. This includes discussion of how syphilis prevention strategies fit into a larger approach to promoting a person's sexual and overall health.



Testing information and linkage

Community-based service providers can play a critical role in making clients aware of the importance of syphilis testing and linking them to providers who can do such testing. Providing key information can support clients to test for syphilis. For example, it is important that clients understand that they can only know if they have syphilis by getting tested, that they should test if they have symptoms or think they might have been exposed to syphilis, and that routine testing is important if they regularly participate in activities that can transmit syphilis.



Clients may also benefit from strategies that support their ability to discuss testing with their sexual partners, when appropriate. This information can be discussed as part of an overall health plan, including integrated STBBI testing.

Service providers can support clients diagnosed with syphilis with linkage to care, so they can start and complete treatment as early as possible. Some clients may need support or check-ins to follow up with treatment, particularly if testing and treatment are done by different healthcare providers. People who receive a positive diagnosis should also be provided with or linked to information and services related to prevention, to help them lower the chances of passing syphilis to others.

Treatment information and linkage

As with testing, service providers can play an important role in educating clients about syphilis treatment and facilitating linkage to care. It is important for clients to know that untreated syphilis can lead to serious health problems and that early treatment can cure a syphilis infection and prevent transmission. Providing information on typical treatment options and their benefits and side effects can be helpful as well.

Service providers can support treatment initiation and completion by facilitating clients' linkage to and engagement with care. Some people may benefit from additional supports to become and stay engaged, such as patient navigation and accompaniment to medical appointments. Other important forms of support include helping clients deal with the pain of injections and short-term side effects, and creating a plan for medication adherence if they choose oral treatment. Clients may also require or benefit from linkage to other forms of support, such as mental health counselling, to cope with stigma and other issues brought up by syphilis diagnosis and treatment.