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HIV Treatment

In-depth knowledge of HIV treatment for front-line service providers working with people who are living with HIV.



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Canada's source for
HIV and hepatitis C
information

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HIV and hepatitis C courses for service providers

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How HIV Treatment Works

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

- 1 Describe the health and prevention benefits of HIV treatment.
- 2 Explain the progression of untreated HIV.
- 3 Describe how HIV infection is monitored.
- 4 Explain how HIV treatment works.
- 5 Describe how HIV treatment is monitored.

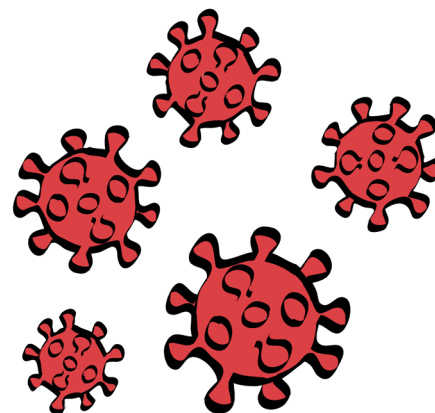


HIV treatment is a lifesaver. There is no cure for HIV but there are medications that can keep the virus under control and allow a person with HIV to stay healthy for a long time. Our knowledge about HIV treatment and the medications involved have improved over time. Very effective HIV drugs are now available that are easy to take and have few side effects.

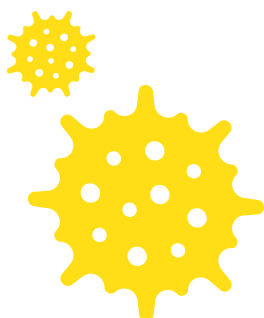
What is HIV?

HIV is a virus. HIV stands for **Human Immunodeficiency Virus**.

- + Viruses survive by making copies of themselves through a process called viral replication.
- + HIV uses the body's immune cells to replicate and destroy those immune cells as it makes copies of itself.
- + If left untreated, HIV slowly damages a person's immune system and makes that person vulnerable to other infections, diseases, and certain types of cancer.



HIV treatment works by limiting the virus' ability to make copies of itself (i.e. by limiting viral replication). It does not cure HIV but significantly lowers the amount of virus in a person's body.



Benefits of HIV Treatment

The most important benefit of HIV treatment is the improvement of the health and quality of life of the person living with HIV. With proper treatment and care, most people living with HIV can stay healthy (or return to health) and live a long, full life.

By limiting HIV's ability to replicate and lowering the amount of virus in a person's body, HIV treatment prevents damage to the immune system, allowing it to stay strong (or rebuild if it has been damaged) and to fight off infections.

HIV treatment also helps to control chronic inflammation in the body caused by the presence of HIV. Chronic inflammation is a type of ongoing immune response that can cause injury to many systems in the body over the long term. By reducing chronic inflammation, HIV treatment helps to lower the chance that people with HIV will develop other health conditions, such as cardiovascular disease and certain types of cancer.

By starting treatment early, remaining in care and staying adherent to HIV drugs, people with HIV can expect to live a normal lifespan and remain free of HIV-related complications.

A second important benefit of HIV treatment is the prevention of HIV transmission.

- + Evidence shows that a person with HIV who is consistently taking effective treatment does not transmit HIV to their partners through sex.
- + Effective HIV treatment also significantly reduces the chance of transmission through sharing equipment to use drugs.
- + Taking effective HIV treatment before conception and throughout pregnancy eliminates the chance of passing HIV from a parent to a baby during pregnancy and delivery.

HIV and the Immune System

When HIV is left untreated, it replicates and destroys important cells in the immune system.

- + HIV mainly infects CD4 cells, but it also infects other types of immune cells in the body.
- + During viral replication, the virus uses these immune cells to make millions of copies of itself. These copies are released into the blood to infect other cells in the body. This process kills the infected CD4 cell.

- + Over time, the number of CD4 cells decreases and the immune system weakens, leaving the person vulnerable to infection, diseases, and certain types of cancer.
- + Untreated HIV infection also keeps the immune system activated. Over time, the resulting chronic inflammation can injure vital organs and systems in the body, making them vulnerable to diseases.

Opportunistic Infections

Over time, viral replication damages a person's immune system, lowers their CD4 count and leaves them vulnerable to serious infections and diseases, including opportunistic infections.



- + Opportunistic infections rarely cause disease in people with healthy immune systems. They occur more often and are more severe in people with weakened immune systems.
- + Opportunistic infections can cause serious illness (such as the life-threatening *Pneumocystis pneumonia*) and even death in people with an immune system weakened by HIV.
- + Opportunistic infections were once common among people with HIV. Nowadays, these illnesses usually only appear in people who are diagnosed or start treatment long after infection.
- + If someone develops an opportunistic infection or another serious illness resulting from a weakened immune system, it is especially important for the person to begin HIV treatment as soon as possible. HIV treatment can help them rebuild the immune system and become healthy again.

Viral Reservoir

HIV hides inside some cells, creating reservoirs of HIV-infected cells that remain dormant and cannot be eliminated by current treatments.

- + Once inside a cell, HIV can hide instead of replicating and destroying the cell. These infected cells remain in the body without actively producing HIV.
- + A pool or group of infected cells that are not actively producing HIV is referred to as a viral reservoir.
- + Viral reservoirs can remain dormant for very long periods of time.
- + Even with effective HIV treatment, HIV cannot be

completely eliminated from the body of someone who has HIV. It is always hiding in these reservoirs within the body, such as in the lymph nodes and brain.

- + Viral reservoirs can become activated long after they are first established. Once activated, they become a source for new HIV viruses that can replicate and spread throughout the body.
- + Despite their best efforts, researchers have not yet found a way to eliminate HIV from these reservoirs.

Viral Load

There are two key blood tests used to monitor a person's HIV infection: viral load and CD4 cell count.

Viral load is a measure of viral activity.

- + Viral load is measured as the number of copies of the virus in one millilitre (mL) of blood.
- + A detectable viral load means that there is a measurable amount of virus in the blood and indicates active replication of HIV.
- + Without treatment, viral load can range from a few thousand copies to several hundred thousand copies per mL or higher.
- + Effective treatment reduces viral load in the blood to undetectable levels; that is, levels so low that standard laboratory tests cannot detect the virus.
- + Even when the viral load is undetectable in blood, some virus is still hiding in viral reservoirs.

CD4+ Cell Count

- + CD4+ cell count is a measure of the strength of the immune system.
- + CD4+ cell count is measured as the number of cells in one cubic millimetre (mm³) of blood.
- + Generally, a CD4+ cell count above 500 is considered to be within the normal range.
- + A decreasing CD4+ cell count indicates declining health of the immune system.
- + As the CD4+ cell count declines, the chance of developing serious infections increases. A CD4+ cell count below 200 puts a person at risk for life-threatening illnesses, including those caused by opportunistic infections.

How HIV Treatment Works

HIV treatment works by stopping HIV from making copies of itself. The goal of HIV treatment is to effectively control the virus and reduce viral load to undetectable levels.



- + If taken consistently and correctly, effective treatment lowers the amount of virus in the blood to an undetectable level and keeps it undetectable. This is called viral suppression.
- + Soon after a person starts taking HIV treatment, viral replication slows dramatically. Since very few new copies of the virus are now being created, the amount of HIV in the body drops.
- + As the viral load decreases and the CD4 cell count rises, a person's risk of developing opportunistic infections or other HIV-related conditions lessens, and most or all of the symptoms associated with HIV infection disappear.

Once started, HIV treatment must be taken for the rest of a person's life.

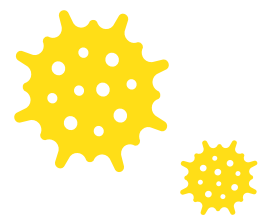
- + HIV treatment is not a cure.
- + Current HIV treatments are only effective against virus that is actively replicating. They have no effect on dormant HIV within the viral reservoir because no new virus is being produced there.
- + Once a person achieves an undetectable viral load, they must continue to take treatments in order keep the viral reservoirs from producing new virus if they become active again.
- + If treatment is stopped, HIV from viral reservoirs can start replicating and spread throughout the body. The viral load will rebound and HIV will start damaging the immune system again.
- + If a person does not adhere regularly to HIV treatment, there may not be enough medication in the body to prevent viral replication. Poor adherence can allow HIV from viral reservoirs to start replicating and spreading throughout the body.

Monitoring HIV Treatment

The effectiveness of HIV treatment is monitored by regular blood tests for viral load.

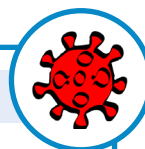


- + Viral load tests are done before a person begins treatment and will be repeated regularly once a person starts treatment.
- + For most people, viral load falls to an undetectable level within three to six months of starting treatment.
- + Viral load testing may be done frequently at the beginning of treatment. Once a person has been on effective treatment for some time and is maintaining an undetectable viral load, the frequency of viral load testing may diminish to every three to six months.
- + While on treatment, the viral load should remain undetectable. The most common reason for the viral load to become detectable again is poor adherence to treatment.
- + If a person who has achieved an undetectable viral load later has a viral load that is detectable, it is important to ensure that the person is adhering properly to their treatment.
- + Some people on treatment may see occasional “blips” in their viral load. A blip is when the viral load becomes detectable at a very low level on one test and then becomes undetectable again on the next test. A single blip is not cause for alarm if the viral load quickly returns to undetectable. A blip may be caused by factors unrelated to the effectiveness of treatment, such as the sensitivity of the viral load test or a temporary activation of the immune system by a cold or flu.
- + If a person experiences two or more detectable viral load measurements in a row after being undetectable, this may be a sign that they are not adhering to treatment or that their treatment is no longer working. In this case, a person will work with their healthcare provider to determine the cause of the detectable viral load and may need to change their treatment.



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2 Taking HIV Treatment



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

- 1 Describe HIV treatment regimens.
- 2 Explain why adhering to HIV treatment is important.
- 3 Describe how HIV develops drug resistance.
- 4 Describe the factors that are considered when selecting an HIV treatment combination.
- 5 Identify common side effects of HIV treatment.

What is HIV Treatment?

HIV treatment consists of a combination of HIV drugs that are taken every day. Since there is no cure for HIV, treatment has to be taken indefinitely.

- + The drugs used to treat HIV are called **antiretroviral drugs**, or ARVs. HIV treatment goes by many names: combination therapy (cART), antiretroviral therapy (ART), highly active antiretroviral therapy (HAART), anti-HIV drugs, and HIV meds, to list a few.
- + While most people take HIV drugs every day, new long-acting formulations of HIV drugs only need to be injected every 1-2 months. These formulations can be considered for people already on stable oral treatment.

HIV Drug Classes

There are several different groups, or classes, of antiretroviral drugs. Each class attacks the virus at different points in its replication process. The classes of drugs used to treat HIV are:

- + integrase inhibitors
- + “nukes” (nucleoside or nucleotide reverse transcriptase inhibitors, NRTIs)



- + protease inhibitors (PIs)
- + “non-nukes” (non-nucleoside reverse transcriptase inhibitors, NNRTIs)
- + Entry inhibitors

Typical Treatment Regimens

A typical HIV treatment regimen usually includes three drugs from two different classes.

- + Nukes typically form the backbone of an HIV treatment combination. A combination will usually contain two nukes.
- + A third drug from a different class is added to these two to create an effective combination.
- + In many cases, drugs can be combined within one single pill.
- + Some people may be prescribed a dual regimen of an integrase inhibitor and one other drug from another class. Other people may be taking more than three drugs, particularly if they are treatment experienced.



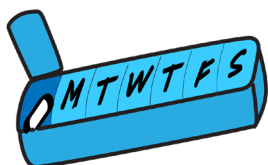
Treatment Adherence

HIV treatment is a lifelong commitment that requires taking medication regularly, exactly as prescribed. This is called **adherence**.

Ongoing adherence to HIV treatment is very important. Without enough medication in the blood to suppress the virus, HIV will begin replicating again and will spread throughout the body.

People may have difficulty adhering to their HIV treatment for many reasons. For example, they may:

- + forget to take their pills or renew their prescription on time.
- + regularly miss doses because they believe HIV drugs are toxic or because taking the medications reminds them that they have HIV.
- + have difficulty maintaining a constant supply of medications because of unstable housing or lack of money or fear that others might discover that they are taking HIV drugs.



Some people may stop taking their medications altogether for a short or long period of time because they feel healthy and don't believe they need to take medications any longer. Stopping HIV treatment is dangerous because it can negatively impact a person's health. If someone is considering interrupting their treatment, it is very important that they discuss their concerns and options with their healthcare provider before they stop taking their medications.

Drug Resistance

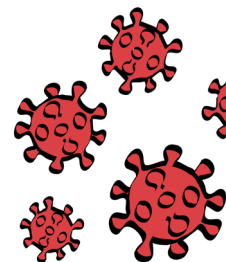
Poor adherence to treatment or stopping and starting treatment can allow HIV to develop resistance to the drugs taken.

Drug resistance refers to HIV that has developed the ability to overcome specific HIV drugs and is able to escape the effects of treatment.

- + When a person who is on treatment misses too many doses, HIV is able to replicate because drug levels in the blood become too low to control the virus. What constitutes “too many” missed doses varies between different drugs and from person to person.
- + As it replicates, the virus can develop changes (called **mutations**) to its genetic material, which can make HIV partially or wholly resistant to one or more HIV drugs. Once HIV has developed resistance to a specific drug, that drug will no longer work for the person.
- + Sometimes this resistance can also reduce the effectiveness of similar drugs in the same class that the person has never taken in the past, therefore reducing future treatment options. This is called cross-resistance. If HIV develops cross-resistance, then the whole class of drugs may no longer work for the person.
- + Drug-resistant strains of HIV can also be transmitted, so it is possible for a person who has never taken HIV treatment before to be resistant to specific HIV drugs or drug classes.

Resistance limits treatment options because the specific drugs to which HIV has become resistant are no longer effective.

- + A blood test is used to help identify which drugs HIV is resistant to.
- + The more drugs a person's strain of HIV is resistant to, the fewer the treatment options.



- + Multi-drug-resistant HIV can be more difficult to treat and may require specific drug combinations. The development of new drugs and classes of drugs can be helpful in this case.

Selecting an HIV Treatment Combination

There are many HIV drugs and treatment combinations available, usually making it possible for a person living with HIV to work with their healthcare providers to find a treatment that works for them, with minimal or no side effects and that fits their schedule.

Effective drug combinations are well defined and published in HIV treatment guidelines. Treatment guidelines summarize evidence and expert opinion on the optimal approach to treat HIV. They are used by doctors to make treatment recommendations to patients. Recommended combinations change over time as new evidence becomes available, so it is important to always refer to the most current guidelines.

Various factors need to be taken into consideration when choosing which HIV treatment a person will take. In collaboration with their healthcare providers, a person living with HIV will need to be assessed for:

- + drug resistance
- + abacavir hypersensitivity
- + the potential for drug interactions with other medications, supplements and street drugs being taken
- + other health conditions
- + whether they are or wish to become pregnant
- + readiness for treatment and potential challenges with adherence
- + HIV treatment costs and access to coverage

It is important to support people living with HIV to discuss these factors with their healthcare providers so that the best treatment option can be found for them.

As HIV develops resistance to different drugs, a person's treatment options may become more limited. Managing side effects and supporting adherence become increasingly important.

A simple blood test can help identify specific HIV drugs that may not work for a person and determine which drugs to include in a person's HIV treatment. This is known as **resistance testing**.

- + Ideally, all people living with HIV should have resistance testing done before they start treatment.
- + Resistance testing should also be done if treatment stops working and the viral load rebounds. The test should be done before switching to a new treatment.

Abacavir Hypersensitivity

Some people are allergic (or hypersensitive) to the drug abacavir, which is also known as Ziagen, ABC, and found in the combination treatments Kivexa, Trizivir and Triumeq.

- + In up to 8% of people who use abacavir, taking the drug can lead to a dangerous allergic reaction.
- + A blood test done before starting treatment can determine whether a person is likely to have a reaction to abacavir. If they are, the drug should be avoided.

Drug Interactions

When a person is taking multiple medications (usually for different health conditions), one medication can alter the effect of another medication—for example, by intensifying side effects, producing new side effects or making the medication less effective. This is known as a **drug interaction**.



- + Drug interactions can occur with prescribed and over-the-counter medications, street drugs, traditional medicines, herbal and nutritional supplements or any other substance.

It is important for a person with HIV to let their healthcare providers, including their pharmacist, know about all the medications they are taking. This includes prescription drugs, over-the-counter medications, supplements and street drugs.

- + There are some medications that cannot be used with specific HIV drugs. In this situation, the medications are said to be “contra-indicated.”
- + In other cases, it may be possible to use certain medications together provided adjustments are made. For example, the dosage may be lowered or the medications may be taken at different times of the day.

Drug interactions can affect anyone who is taking multiple medications. However, they are a growing concern as people age with HIV. Older people with HIV are often prescribed medications for multiple health conditions (such as high blood pressure, high cholesterol and

diabetes), which increases the likelihood of having drug interactions. Sometimes these medications are prescribed by different healthcare providers who may not necessarily be aware of the other medications the person is taking.

Other Health Conditions

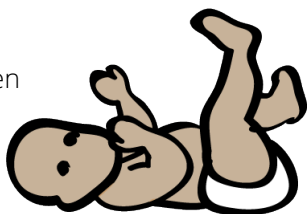
Before starting HIV treatment, it is important for a person to discuss other health-related issues they have with their healthcare providers. This can include:

- + cardiovascular disease and related risk factors such as smoking, high cholesterol levels, high blood pressure, obesity, a parent or sibling who has heart disease, or using street drugs such as cocaine or amphetamines
- + kidney injury
- + diabetes
- + sleeping problems
- + anxiety, depression or other mental and emotional health issues
- + co-infection with hepatitis B or C or other liver problems; this may require the person to do a blood test for screening

Certain HIV drugs may not be recommended if a person has particular health conditions. In these cases, a different combination of drugs can be selected.

Pregnancy

Some HIV drugs cannot be taken during pregnancy. It is therefore important for a person to let their healthcare provider know if they are pregnant or might become pregnant so that this can be taken into consideration when choosing the best HIV treatment combination. There are various treatment options that can allow the person to have a healthy pregnancy and eliminate the risk that HIV will be passed to their baby.



Treatment Readiness and Adherence Challenges

It is very important that the person is ready to commit to taking treatment regularly as prescribed and has the necessary supports in place to be adherent. Any potential challenges to adherence should be identified and addressed. Some HIV drugs are more “forgiving” of occasional missed doses than others.

Paying for Treatment and Treatment Access

To cover the cost of HIV drugs, most people with HIV rely on drug insurance plans, either private plans (usually through work) or provincial or territorial plans. Some people are covered under plans from the federal government.

- + Eligibility for HIV drug coverage varies from one plan to another.
- + Each province and territory has a list called a formulary that includes all the medications covered under its plan.
- + Most HIV drugs are covered on most provincial and territorial formularies. However, there may be special conditions or restrictions—for example, certain HIV drugs may not be covered unless a person has tried other HIV drugs first.
- + It may take some time for a newly approved HIV drug to be included on a formulary. In cases where an HIV drug is not covered by a private, provincial or territorial plan, or where the person needs to pay a portion of the cost out of pocket, it may be possible to obtain financial assistance to help cover costs.
- + A doctor, pharmacist, nurse or other service provider can support the person to identify strategies to cover the costs of their HIV treatment.

Common Side Effects of HIV Treatment

With current HIV drugs, side effects are much less common and are generally mild. Many people experience no side effects at all.

Research has shown that the earlier a person is diagnosed with HIV and the sooner they begin treatment, the less likely they are to experience major side effects from HIV treatment. This is another reason to start treatment as early as possible.

Short-Term Side Effects

There is no way of predicting who will experience side effects.

- + Some short-term side effects that may occur when a person first starts treatment include nausea, headaches or difficulty sleeping.
- + If side effects occur, they tend to disappear after a few days or weeks and most can be managed with over-the-counter treatments (such as ibuprofen for headaches, for example).

Side Effects vs. Other Symptoms

It is important for a person to speak to their healthcare providers about the symptoms they experience after starting HIV treatment. Sometimes symptoms may appear to be side effects but are actually linked to other factors.

- + For example, nausea can be the result of many other conditions such as infections, pregnancy or stress rather than being a side effect of the HIV drugs.

If it is determined that the symptom is a side effect of HIV treatment, healthcare providers can work with the person to determine how best to address the issue:

- + Some side effects are short term and disappear after a few weeks. If necessary, healthcare providers may suggest ways to manage these side effects during this time.
- + In cases where side effects do not go away over time or significantly affect a person's quality of life, the healthcare provider may suggest changing the treatment to reduce side effects.

Older HIV Drugs

The first drugs that were developed to treat HIV often had many side effects and were difficult to tolerate. People who have been living with HIV for a long time and who took some of these earlier HIV drugs may also experience long-term side effects of HIV treatment.

- + Examples of long-term side effects that occurred with earlier HIV drugs include nerve injury (peripheral neuropathy) and changes in how the body stores fat (lipodystrophy).
- + Healthcare providers can help to manage some of the long-term side effects of earlier HIV drugs.

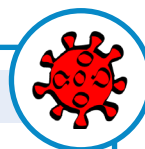


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3 Supporting People on their HIV Journey

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

- 1 Describe the treatment-related issues that people living with HIV face.
- 2 Support people living with HIV in beginning, switching, and staying on treatment.



Reactions to an HIV Diagnosis

Today, an HIV diagnosis is not like it was in the early days of the epidemic. With effective treatment and care, people living with HIV can live long and healthy lives. Successful treatment also means they can have sex without passing HIV to their partners. And they can have healthy pregnancies and give birth to HIV-negative babies.

Despite this good news, an HIV diagnosis can still be stressful. It is a life-changing event. HIV still carries a lot of stigma in our society. Some people may not be aware of the current state of medical care of HIV. This means that the news of a diagnosis may bring distressing feelings, such as shock, sadness, fear, anger or doubt. Other people may not be able to deal with the diagnosis right away and may react by expressing denial.

It is important to consider what your client may be experiencing in relation to an HIV diagnosis and how you can support them.



Understanding the Benefits of HIV Treatment

Providing information about the health and prevention benefits of HIV treatment can play an important role in reducing stress and improving a person's sense of empowerment and well-being. It can help to create hopeful expectations for the future and encourage engagement in HIV care.



People newly diagnosed with HIV may have many misconceptions about the virus and how it is treated. Here are some myths—and facts—about living with HIV:

Myth: HIV is a death sentence.

FACT: With proper treatment, care and support, people with HIV can live long, healthy lives. They can have relationships, raise families and pursue their dreams. If HIV is diagnosed early and treatment is started soon afterwards, a person living with HIV will have a similar life expectancy to their HIV-negative peers.

Myth: HIV treatment is horrible, with many pills and difficult side effects.

FACT: Newer HIV treatments are safe, effective and well tolerated. Treatment can be as simple as one or two pills once a day. And side effects are generally minimal and often last only a few days or weeks after treatment has started. Many people are not aware that the newer HIV drugs do not have the long-term side effects, such as lipodystrophy or changes in body shape that occurred with earlier HIV drugs.

Myth: I can wait until I'm sick before I need to start HIV treatment.

FACT: While people with HIV often don't feel sick for many years, the virus is constantly causing damage inside the body.

Myth: Because I have HIV, I'll always have to worry about sex.

FACT: A person who adheres to their HIV treatment and maintains an undetectable viral load cannot pass HIV to their sex partners.

Myth: I'm feeling well so I can take a break from my treatment.

FACT: If treatment is stopped, the virus will begin replicating again. The person's viral load will become detectable and the risk of HIV-related complications will increase. Interrupting treatment can also increase the chances that the virus will become resistant to it and the person will have fewer treatment options. If someone is thinking about stopping treatment, they should talk to their doctor first.

Engaging in HIV Care

For the best possible outcomes, it is important that a newly diagnosed person is immediately connected and engaged with appropriate medical care for their HIV.

Some people may benefit from additional supports to become engaged in medical care, such as patient navigation services or accompaniment to medical appointments.

Connecting to Support

Some people newly diagnosed with HIV may need a diverse range of supports depending on their particular circumstances. For example, they may need help to:

- + Take care of their mental and emotional health
- + Decide who to talk to about their HIV status, such as partners, family or friends, and how they will talk to them about it
- + Access HIV medications through public or private insurance plans
- + Find stable housing
- + Connect with other people living with HIV to share concerns and learn how to live well with HIV



Importance of Starting Treatment Early

People should start HIV treatment as soon as possible after diagnosis.

- + The earlier HIV treatment is started, the better the health outcomes for people living with HIV. Extensive research shows that the benefits of starting treatment early outweigh the possible risks, including the risk of side effects.
- + Guidelines now recommend that HIV treatment be offered right away to people diagnosed with HIV.
- + However, the decision to start treatment belongs to the person living with HIV. It is important that people are ready to make the commitment to taking HIV treatment on a regular basis. Healthcare providers should discuss treatment options without coercion and be sure to get informed consent before starting someone on treatment.

Decision to Start Treatment

The decision to start HIV treatment is big because it involves a lifelong commitment to taking medications as prescribed.

Some people may feel empowered by starting treatment. They may feel that they are taking control over HIV and their destiny. Because a person with an undetectable viral load cannot pass on HIV to their sex partners, starting treatment may also help restore self-esteem and reduce HIV-related stigma.

Some people may not wish to start treatment right away. They may have fears about starting HIV treatment because of possible side effects and toxicity. They may feel that the lifelong commitment to taking medications is overwhelming. They may be in denial about their HIV diagnosis. Or they may feel that controlling HIV is not the most important priority in their life right now.

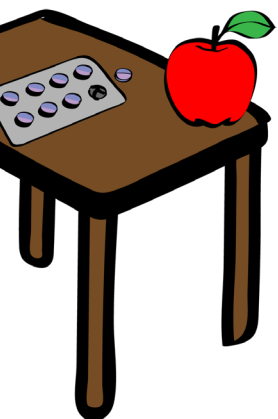
It is important to meet people where they are in their decision to start treatment and to support them respectfully and without judgment.

Getting Ready

Starting HIV treatment involves establishing a new routine for taking medications, as well as attending regular medical appointments and filling prescriptions. Some people may benefit from support to help them work through these lifestyle changes.

Personal and social factors can influence a person's readiness to start treatment and their ability to stick to their treatment once they start. Ideally, these factors should be considered and addressed before a person begins taking treatment.

It can take several months before HIV treatment reduces the viral load to undetectable levels. During this time, additional prevention methods may be needed to prevent passing HIV through sex. Some people may need support to plan an effective prevention strategy during this time.



Some people who are diagnosed very late may also be experiencing or at risk of opportunistic infections. It may be more urgent for them to start HIV treatment immediately in order to avoid life-threatening illnesses. They may need to also take medications to manage the opportunistic infection. After the opportunistic infection has resolved, they may need additional support to continue with HIV treatment for the long term.

Planning for Adherence

Encourage your clients to consider what will help them stick to their pill-taking schedule, including where and when they will take their drugs. Strategies can include:

- + Using an adherence app or alarm reminder on their mobile phone
- + Using plastic pill boxes for storing a week's worth of pills or asking the pharmacy to package the treatment in blister packs according to the daily dosing schedule
- + Keeping medications in a space where they are likely to see them, such as their bedside table, bathroom counter or kitchen cupboard
- + Keeping a small supply of medications in other places, such as at their workplace or at a partner's or friend's house that they go to regularly
- + Planning ahead when travelling to bring the right number of pills, plus a few days of extra doses, and avoiding putting medications in checked luggage in case luggage gets lost
- + Speaking to other people who are living with HIV about strategies that work for them



Preparing for Side Effects

You can help your clients to prepare for possible side effects they might experience when they start HIV treatment.

- + Encourage your clients to speak to their healthcare providers about possible side effects before they start taking the treatment and to share any symptoms and concerns they may experience once they begin treatment. This can include changes in mood and mental health in addition to physical symptoms.
- + Some people choose to start taking their HIV treatment on the weekend or at a time when they can rest and adjust to the side effects, if they experience any.
- + Remind your clients that, in general, side effects disappear after a few days to a few weeks. If side effects are bothersome or persistent, encourage your clients to bring up these issues with their doctor, nurse or pharmacist to receive specialized advice. It





can be helpful if clients keep a written record of their side effects, including when they happen, how long they last, how bad they are on a scale of 1 to 10, and how their life is impacted. The record can be shared with healthcare providers to start a discussion.

Importance of Ongoing Engagement

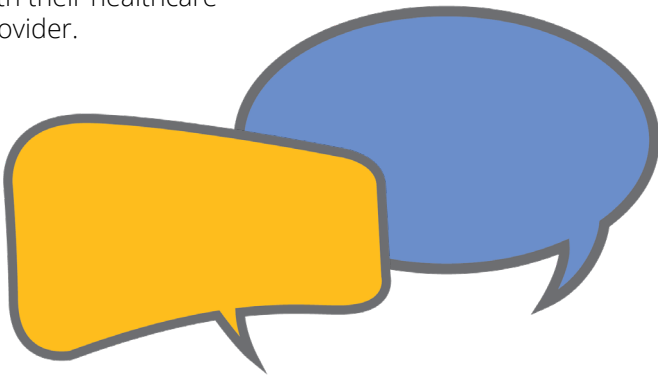
It is important that people on HIV treatment remain engaged in care and adhere to their treatment regimen on an ongoing basis. It is also important that people who decide to stop taking treatment still remain engaged in care.

It can be helpful to check in on clients regularly to see how they are managing with their treatment and determine if they could benefit from additional support.

There are many different kinds of support a person may need to stay on treatment.

Working with Healthcare Providers

A good relationship with their healthcare provider is key for people living with HIV. The more open, honest and trusting the relationship, the greater the chance of long-term success on treatment. Some people may have difficulty discussing certain important topics with their healthcare providers, such as the street drugs they are using, the challenges they are having with adherence, or the symptoms they may be experiencing. Consider how you could support clients to develop a good relationship with their healthcare provider.



Telling Others about their HIV Status

A person's adherence to treatment can be affected by the fear that others might discover they are living with HIV. For example, if a person's living situation changes or if they have a new roommate, they might choose to skip doses or avoid taking treatment in order to hide the fact that they have HIV. Consider how you could help people to decide who to tell about their HIV status, as well as when and how they will tell them. For people who choose not to disclose their status, consider how you can help them find strategies so they don't skip doses.

Social Support

People living with HIV thrive best when they have strong social networks. Consider how you could support clients to connect with peers and develop supportive relationships in their communities.



It is also important to address the broader social factors that may impact a person's ability to stay on treatment. This might include finding stable housing and income, ensuring access to nutritious food, covering out-of-pocket expenses for treatment and care such as deductibles or travel expenses. Consider how you could support clients to address these factors.

Mental Health

Mental health and well-being can impact a person's ability to stay on treatment. Someone who is depressed or dealing with other mental health issues may forget or not feel motivated to take their treatment. Some people's ability to adhere may be impacted by past or current trauma or by intimate partner violence. Consider how you could support clients to identify and address any mental health or safety issues they are experiencing.

Substance Use

People who use substances should be offered HIV treatment without requiring that they stop substance use. People who actively use substances can be successful on HIV treatment. However, for some people the use of alcohol or other drugs may affect their ability to adhere to treatment. Also, some HIV treatments may interact with street drugs, which can increase the risk of overdose or withdrawal. Consider how you could support your client to discuss their substance use with their healthcare provider and connect them with harm reduction support if needed.

Treatment Fatigue

People who have been taking treatment for a long time can sometimes become frustrated or unmotivated. This is known as **treatment fatigue**. Because of treatment fatigue, sometimes people choose to go on "treatment holidays," or a temporary interruption of treatment. Treatment holidays are never advised. There is a large body of research that shows that even a short interruption of treatment can have negative consequences on a person's health. Consider how you will check in with your clients to ensure that they are still engaged in HIV care and what support you could provide if they are experiencing treatment fatigue.

Reasons for Changing HIV Treatment

In general, a person who is taking HIV treatment that is effective in controlling the virus and has few to no side effects can stay on the same treatment combination for years, or even decades.

However, a person may need or want to change their HIV treatment regimen for the following reasons:

- + virological failure
- + drug tolerability

Virological Failure

Virological failure happens when the viral load of a person on successful treatment becomes detectable and remains that way over successive viral load tests. Virological failure indicates that the treatment is no longer working. If this happens, the person will have to work with their healthcare provider to identify why the treatment is not working.

The most common reason for virological failure is poor adherence. Other reasons include drug or food interactions or drug resistance.

Depending on the reason, a new HIV treatment regimen might be needed.



Drug Tolerability

In some cases, HIV treatment may be effective in controlling viral load but a person may have concerns about some aspect of the treatment, such as a long-term side effect.

If a person is having difficulty tolerating their particular treatment regimen, it is important that they discuss this with their healthcare provider in order to find an alternative regimen that is easier for them to tolerate.

Changing Treatment

No matter what the reason for changing treatment regimens, a person should never stop taking HIV treatment without speaking to their healthcare provider first.

- + A healthcare provider can offer information and guidance to help a person decide if it makes sense to change HIV treatment, which treatment options are available and how to go about switching medications to avoid developing resistance.
- + Plans should also be made to ensure a smooth transition, including managing side effects that might occur when starting the new treatment.

Support for Changing Treatment

The need to change HIV treatment may indicate that people are struggling to manage treatment. People may need additional support at this time, particularly if poor adherence is the reason for changing treatment. Consider how you could support your client to identify the difficulties they are having in managing their treatment and what support they may need to address these challenges.

