

HIV Treatment

Why do I need to know about HIV treatment?

As a person living with HIV, you have to decide which HIV treatment is right for you, using the best information available. The more informed you are about your HIV treatment options, the better you are able to work together with your doctor to choose a treatment that works for you and that you can stick to in order to stay healthy. It is important for you and your health care providers to set common goals and work as a collaborative team in your treatment decision-making. Taking an active role in your treatment decisions and having prepared and proactive health care providers can lead to positive interactions, which will give you the best health care outcomes such as healthier and longer life.

As soon as you test positive...

As soon as you test positive, the first thing you *must* do is to find a doctor who is experienced in treating people with HIV/AIDS and with whom you are comfortable with. Your doctor needs to treat you, the person living with the virus, and not just the virus. Remember, your doctor or health care provider should be a partner in making decisions about your health care that best meet your needs.

What is antiretroviral therapy?

Antiretroviral (ARV) therapy is the course of medications or drugs you take to fight HIV. Other terms, that mean the same thing are “HAART” (Highly Active Antiretroviral Therapy), “ART” (Antiretroviral Therapy), “antiretroviral drugs”, “HIV treatment” etc.

Currently available ARV does not eliminate the virus from the body. Instead, it can prolong life and good health by reducing the harmful effects of HIV on the immune system.

What are the goals of antiretroviral therapy?

- Longer life
- Better quality of life
- Lower viral load
- Higher CD4 cell count
- A healthier immune system leading to less illness
- Lower risk of infecting others with HIV

How does antiretroviral therapy work?

Antiretroviral therapy keeps HIV from making copies of itself (replicating) within the cells of your immune system. Different drugs work at different points to stop replication. The fewer HIV cells in your immune cells, the healthier your immune system is and the better able you are to fight off infections that can make you sick and leads to AIDS.

HAART is the standard way of treating HIV in most people.

What is HAART?

HAART is the term used to describe taking a combination of antiretroviral drugs, usually 3 or more daily. The drugs taken as part of HAART are not a cure for HIV or AIDS but they work to keep the infection under control. At this time, people living with HIV/AIDS must take these drugs for their entire lives. If taken properly with the right dose, at the right time and everyday, the drugs can slow HIV progression and keep people healthy for a long time, often for many years.

When do you need to take HAART?

There is no clear evidence on when is the best time for you to start taking ARV. This means that you must weight up with your doctor, on an individual basis, the likely benefits and risks of taking treatment now, as opposed to waiting until later.

To determine whether you need to take HAART or not, your doctor will take at least two blood tests:

- **a CD4 count**
- **a viral load test**

The level of your viral load and CD4 count, along with other indicators, may help you to decide whether to start ARV treatment or not. Based on both your CD4 count and viral load test results, you and your doctor will have a clear picture of how HIV has progressed in your body and when you should start taking HAART.

Timing of starting treatment will depend on the level of viral load, the speed at which CD4 count is falling, the likelihood of achieving good adherence, the presence of symptoms, and the your wishes.

It is recommended that people start treatment before their CD4 falls below 200, as people who start treatment with a CD4 count below 200 face a greater risk of death, in the short-term than those who start before the CD4 count drops below this level.

On the contrary, starting ARV treatment too early has proven to be unnecessary and might cause long-term negative effects. While immunity is not compromised and a person remains healthy with no opportunistic infections it is not recommended to start ARV treatment. Starting ARV treatment early can bring about early drug resistance. Once the virus develops tolerance against the medications you will have less and less choice for effective medicines when the body really needs them.

People who are advised to start treatment but decide not to, should review their decision regularly, and have their CD4 and Viral Load monitored more regularly.

Remember that it is always better to have a road map to know where you are heading than to leave it to chance.

The current view is that treatment is clearly beneficial:

- if you have symptoms of HIV or AIDS
- If you have a low CD4 count, another sign that the immune system is damaged

What is CD4 count?

Your CD4 cells (also known as T-helper cells), are white blood cells which organize the immune system's response to microorganisms, including bacteria, fungal infections and viruses.

The CD4 count is the measurement of the number of CD4 cells, in a cubic millimeter of your blood. This is written as CD4 cells/mm³.

An uninfected person may have a CD4 count of anywhere between 500 and 1200.

The HIV virus infects the CD4 cells and uses them to produce more copies of the HIV virus. Each day, millions of CD4 cells are infected by HIV and are destroyed, and millions more CD4 cells are produced to replace them.

What does the CD4 count predict?

The CD4 count gives you the overall trend of your immune system's health – whether it is declining or improving.

The CD4 count declines over a number of years in people living with HIV. A CD4 count of between 500 and 200 indicates that some damage to your immune system has occurred.

If your CD4 count drops below 350, or starts falling rapidly, your doctor should talk to you about whether you need to start anti-HIV treatment.

If your CD4 count falls below 200, you are considered as has progressed to AIDS stage and treatment is clearly indicated because this is the level at which the risk of AIDS-related illness is greatly increased.

Changes in CD4 count

Your CD4 count can go up and down in response to infections, stress, smoking, exercise, the menstrual cycle, the contraceptive pill, the time of the day and even the seasons of the year.

Different types of CD4 counting machines also give different readings.

This is why it is important to monitor its trend over time, and not on individual test results. It is also best to measure your CD4 count at the same clinic and at roughly the same time of day wherever possible.

If you have a relatively high CD4 count, no symptoms and are not taking anti-HIV drugs, you only need to measure your CD4 count once every 3 to 6 months.

Should your count fall rapidly, your doctor may suggest that your count be monitored more often.

What are CD4 percentages?

Instead of just counting the number of CD4 cells per mm³, doctors sometimes assess what proportion of all white blood cells are CD4 cells. This is called the CD4 cell percentage.

In HIV negative people, a normal result is about 40%. A CD4 percentage below about 20% is thought to reflect the same risk of becoming ill as does a CD4 count of about 200.

What is viral load test?

Viral load is the term used to describe the amount of HIV in your blood. The more HIV in your blood, the faster your CD4 cells are likely to disappear, and the greater your risk of developing symptoms or further illness within the next few years.

The viral load test estimates the number of HIV particles in the liquid, or plasma part of the blood. They do this by looking for HIV's genes, which are called HIV RNA.

The result of a viral load test is described as the number of copies of HIV RNA or bDNA per millimeter.

Natural variation of the viral load test

Viral load measurements can rise and fall from one blood sample to the next but this may have no long-term impact on the health of the person being tested.

Researchers investigating viral load changes in people not on treatment have found that two separate tests on the same sample of blood can give results which differ by as much as three fold.

If you are not on treatment, you shouldn't necessarily be worried if your viral load goes up from 5,000 to 15,000 at a time. Similarly, a rise from 50,000 to 100,000 may not be significant, although it may appear to have doubled.

Your viral load should ideally only be measured when you are well. If you have an infection or have recently had a vaccination, your viral load could temporarily increase. In these cases, it is best to avoid having a viral load test for at least one month after a vaccination or illness.

Preparing to start treatment

Are you ready in every way—mentally as well as physically? The medications will only work if you are ready to make them a part of your life.

- Acquire a thorough knowledge of ARV treatment, including precise information about the medicines you will be taking as well as information about the continued need to take medicines for the prevention of opportunistic infections.
- Assess your feelings. Examine your readiness to commit to a continuous, regular and life-long medical treatment.

- Assess your financial means. Examine your long-term ability to pay for the costs of medicines, regular blood tests, transportation for hospital appointments or for collection of medicines, as well as potential loss of income when not working.
- Plan carefully how you will manage possible side effects of your ARV treatment and associated problems such as time off work during the first few weeks of treatment. Advise family members of what to expect as a result of the first few weeks of treatment or find extra help to take care of you at the beginning of treatment.
- Feel free to consult with your doctor whenever a problem arises. Doctor-patient cooperation is beneficial to the treatment.
- Make sure any sexual activity is safe (use condoms) and for drug users, that you do not share needles and syringes in order to reduce the likelihood of additional HIV infection. Doing this helps reduce the likelihood of you developing resistance to your ARV medicines and prevents you transmitting an ARV drug resistant HIV to other people.

Remember: You have to take your medications at least 95 percent of the time to keep HIV under control.

This means you have to be certain that taking your medications will become a central part of your daily life. No doubt this commitment will be challenging. However, you have an extremely good chance of keeping the virus under control with the first combination of medications that works for you. If this combination successfully suppresses the virus, and if you take each and every pill prescribed, you may not have to change medications.

What if you aren't always able to take all your medications on time?

This may cause your first combination of medications to fail. If this happens, it can get harder and harder to keep HIV under control with each successive drug combination.

So it's crucial to identify a combination you can stick to, before you start treatment. Here are some things to consider:

Your surroundings and your mental health are important.

If you are feeling depressed, using recreational drugs or living on a friend's couch, it may be unrealistic to assume you'll be able to take all your medications all the time. So make sure you have organized your life before you begin treatment. This way it will be easier for you to follow a strict treatment plan. It's also a good idea to get some support. It helps immensely to have friends, family or a therapist you can rely on while you are on a treatment regimen— especially at the beginning when you are still adjusting. Check out with AIDS organization in your area for support groups.

Your medical evaluation before starting treatment:

- Discuss your medical history with your doctor and have a physical examination

- Take a series of routine blood tests to measure your complete blood count and blood chemistry levels
- Have CD4 count and viral load test
- If you are a female, have a gynecological examination including PAP smear
- Have a tuberculosis skin test
- Test for viral hepatitis (A, B, C), toxoplasma serology, CMV serology

What to start treatment with?

There are now many ARV drugs approved and available. However, none of these medications can cure HIV, and no single drug taken alone is effective. But, taken in a combination of at least three, these medications can control the quantity of virus in your body and maintain the health of your immune system. There are exceptions to this, for example if you are a woman and taking treatment when you are pregnant. You should work with your doctor to choose a combination of drugs that works best for you.

How many kinds of ARV drugs are available?

At present there are over 20 kinds of ARV. Here are the 3 major classes:

- NRTIs (nucleoside or nucleotide reverse transcriptase inhibitors)
Targeting an HIV protein called reverse transcriptase
e.g.: *zidovudine (AZT)*, *didanosine (ddI)*, *stavudine (d4T)*, *lamivudine (3TC)*.
- NNRTIs (non-nucleoside reverse transcriptase inhibitors)
Targeting reverse transcriptase
e.g.: *nevirapine (NVP)*, *efavirenz (EFV)*
- PIs (protease inhibitors)
Targeting HIV protein called protease
e.g.: *indinavir (IDV)*, *ritonavir (RTV)*, *saquinavir (SQV)*, *kaletra (lopinavir + ritonavir)*, *atazanavir*.

All 3 classes of medications have been designed to interfere with HIV's ability to copy itself—that is, to reproduce inside your body. Each class of medication stops the virus at a different moment in its replication cycle. A combination of drugs from at least 2 of these classes work best.

Newer ARV drugs

- Fusion inhibitors
Targeting the point where HIV locks onto immune cells
e.g.: T20, enfuvirtide, Fuzeon
- * not available in Malaysia yet.

Recommended ARV combination (HAART)

At present, a combination of 3 ARV medicines chosen from at least 2 of the earlier mentioned classes should be taken to effectively inhibit the growth of the HIV. Such combination taken correctly could give protection from AIDS for up to 15 years or more.

Commonly used HAART in Malaysia:

- 2 NRTIs plus 1 NNRTI
(eg: AZT + 3TC + EFV, AZT + 3TC + NVP, 3TC + d4T + EFV, 3TC + d4T + NVP)
- 2 NRTIs plus 1 PI
(AZT + 3TC + IDV, d4T + 3TC + IDV)
- 2 NRTIs plus 1 "boosted" PI
(AZT + 3TC + IDV +RTV, d4T + 3TC + IDV +RTV)

Each of these combinations is known to fight HIV. How do you choose one? You and your doctor can consider four major issues:

- whether the treatment regimen preserves your future choices (also known as “sequencing”),
- how powerful a combination it is,
- how much experience doctors and researchers have had with it, and
- what side effects it can cause.

Other factors important in making this choice include the **number of pills** you’ll have to take and the **number of times** you’ll have to take them (once or twice a day).

“Boosted” Medications?

Any medications that increase the power of another medication can be called a booster. A “boosted” protease inhibitor is usually boosted with another protease inhibitor. Among the protease inhibitors, ritonavir (Norvir) has been used most often as a booster. It is used to raise the strength of saquinavir (Invirase or Fortovase), indinavir (Crixivan), amprenavir (Agenerase) and nelfinavir (Viracept). One drug, Kaletra, is considered a boosted combination since it consists of lopinavir and a small dose of ritonavir.

Preserving your future options (sequencing)

When choosing your first treatment regimen, it would be wise to simultaneously consider your future options in case this first combination “fails.” Failing means that the HIV in your body has adapted to one or more of the medications you are taking. This means HIV is able to ignore the medications and keep multiplying. Doctors say that when this happens your virus has become “resistant” to those drugs.

This may seem complicated, but all it means is that some medications may eventually stop preventing your virus from multiplying inside your body. By thinking in advance about this possibility when deciding on your first treatment regimen, you will be able to keep your future choices of medications open.

Potency

If you have an especially high viral load, certain combinations can be more powerful. These more potent combinations, according to the latest research, consist of two NRTIs plus either one “boosted” protease inhibitor or one NNRTI. These combinations have been used successfully in people who have viral loads above 100,000. If your viral load is not that high, then you and your doctor can decide together which of the commonly prescribed drug-class combinations would be best for you.

Experience

Should you use the newest, potentially most-advanced medications available, or medications that doctors have been using for a long time?

Newer medications may offer important advances over earlier ones. However, the true test of any drug is time. Over time, with additional research and experience, doctors can discover things about a drug that no one could see before. Some medications have unexpected side effects; some interact dangerously with other medications; and others become less effective once people have taken them for a long time. Your doctor can help you balance the risks and benefits of choosing between newer and older medications.

NRTIs have been studied and used the longest, and their strengths and weaknesses are well understood. Nearly everyone on HIV treatment is taking one or two NRTIs. But the fact that NRTIs have been around so long has also led to a problem. Even if you've never taken medications before, your virus may already be resistant to one or more of them.

How can this happen? Because so many people have taken NRTIs, over time their virus may have become resistant to NRTIs. If you got HIV from someone like this, the HIV you got may be resistant to NRTIs or to other HIV medications. To see if your HIV is resistant to any of the medications you are considering, it may be a good idea to ask your doctor about getting a resistance test *before* you start treatment, provided you were infected with HIV within the last year.

If you have taken ARV in the past:

The most important information you need to know is if you have developed resistance to the medicines you used to take. If so, the new ARV combination you are considering should not include those medicines.

An assessment of the probability of drug resistance can be made by looking at how correctly you took your ARV medicines in the past. The probability of resistance increases when:

1. The medicines are not taken on time and regularly. This is the usual cause of ARV resistance.
2. The dosage of ARV is insufficient
3. The combination taken is not effective, i.e consists one or two ARV medications only.
4. The medicines are taken over a long period of time.

Adherence

Effective treatment calls for self-discipline

The success of your ARV treatment requires an unusually high level of dedication from you. Adherence is the term used to describe taking your ARV drugs exactly as prescribed, with no missed or late doses, and eating the correct type of food with your drugs if that's required. Missing even a few doses can cause your drugs to fail – adherence level of over 90-95% are what's needed for you to get the best response.

Taking each dose on time will maintain the level of medicine in the blood, making the treatment effective and also reducing the chance of developing drug resistance. A clear understanding of the pattern of taking medicines is very important.

Medicines that need to be taken once daily: can be taken at any preferred time of the day but it must be the same everyday. If the medicine is taken at 9am it must be taken at 9am every single day.

Medicines before bedtime: medicines to be taken once daily before going to bed should be taken at the same time everyday, even if you go to bed at a different time on some days. It is recommended that medicines that may cause nausea, dizziness or drowsiness, such as efavirenz, are taken at before bedtime. Sleeping after taking the medicines in this category will reduce side effects.

Medicines that need to be taken twice daily: patients are easily misled by vague instructions on the package, such as “take in the morning and the evening”. This does not mean the medicines can be taken at any time twice during the interval of morning and evening. Instead ARV medicines with this instruction need to be taken twice daily with an equal time interval between each dose everyday, i.e.12 hours. If the first dose is taken at 8am, the second dose should be at 8pm.

Medicines that need to be taken 3 times daily: each intake of medicine must be equally spaced at intervals of 8hours, for instance 7am-3pm-11pm.

Medicines before food: medicines with this instruction need to be taken when the stomach is empty, for the purpose of good absorption. “Empty stomach” in this case means no food substances left in the stomach except water and some kinds of permitted drinks. Some types of medicines including ddI and Indinavir are usually recommended to be taken at least half an hour before meals.

Medicines after food: taking medicines after food can help reducing the symptoms of side effects such as nausea, vomiting and stomachache associated with taking ARV such as ritonavir and AZT, as they are absorbed more slowly when food is in the stomach. Also some medicines can have an irritating effect on an empty stomach.

Forgetful? Here are some tips:

- Use a small notebook to keep track of each time you take your medications.
- Buy a watch with alarms, a pill beeper, or a pillbox pre-filled at the beginning of each week.
- Keep all their medications in one place, like near a toothbrush or in the kitchen, so you can remember to take them with meals (if your medications must be taken with food).
- Fill your prescriptions consistently at one pharmacy. This way you can refill everything at once and not run out of certain medications.

You’ve started treatment: what now?

Regular check-ups

If you have HIV, you should see a doctor regularly for a check-up. Most people with HIV attend Infectious Diseases clinic or specialist HIV clinic which have doctors and other health professionals trained in HIV/AIDS. Even if you do not want to take treatments at this stage, regular blood tests will tell you how the disease is progressing.

Monitoring

Once you have begun treatment, tests to measure liver function, and fat and sugar levels in the blood may be conducted to show the effects of the drugs on the normal workings of your body.

You should have your CD4 count and viral load repeated every 3 to 6 months once you have begun treatment to monitor your response to treatment.

Side effects

Side effects are problems that arise from the drugs you are taking. Most drugs have side effects, even drugs you can buy without a prescription. Side effects that have been found during clinical trials are listed on the paper insert that comes with most drugs. These do not necessarily happen to every one who takes the drug.

It is very common for people to experience side-effects to ARV treatment, especially during the first few weeks of treatment. Your doctor can prescribe a number of drugs to help you cope with this initial period.

Side effects from ARV treatment can be broadly divided into:

Not severe medically: these are not life threatening but cause discomfort and may be distressing. Symptoms may include headache, nausea, vomiting, diarrhea, abdominal discomfort. Symptoms mostly trouble patients at the start of treatment and gradually improve during the first 2 months.

Medically severe: these can be harmful to life if not treated. They include anemia, hepatitis, pancreatitis, neuropathy and kidney stones. These effects can develop at any time (i.e. after a short time or a long time) during treatment and are more common in patients who started ARV when their CD4 count was very low.

Long term side effects: these can develop after a long period of treatment (such as 3-4 year). They include high blood sugar level (and sometimes symptoms of diabetes mellitus: frequent thirst and urination) abnormal distribution of body fat (increase of body fat around the abdomen, neck or chest but loss of fat from the arms and legs).

What should you do if you have side effects?

If you are experiencing side effects, it is important to talk with your doctor. He or she may be able to help you learn to cope with the side effects until they get better. But some side effects may make you feel so sick that you want to stop taking the drug. Other side effects may be very dangerous and you may have to stop taking the drug.

You may not feel some side effects, even though they are happening and could be dangerous. Your doctor would want to do regular blood tests to see if the drug you are

taking are affecting your liver, kidneys, and other parts of your body. these blood tests will catch problems early before they become serious.

Side effects that require special attention:

Lactic acidosis

This is a rare but very serious condition. Lactic acidosis occurs when you develop abnormally high levels of lactic acid. Nucleoside analogue (NRTIs) like AZT or d4T might cause lactic acid levels to rise, especially in women, people who are overweight, and people who have taken drugs for long periods of time.

This is a difficult side effect to diagnose because many of the first symptoms are common and have many possible causes. The first symptoms include: bloating, nausea or vomiting, stomach ache, diarrhea, weakness, loss of appetite, or weight loss. Talk to your doctor if you get these symptoms. There are blood tests to determine if lactic acidosis is the cause. If it is, then your doctor will have you stop taking your medications.

While rare, an extremely high buildup of lactate can be fatal, although this can be avoided if your doctor regularly monitors your lactate levels.

Diabetes mellitus and hyperglycemia

People taking ARV, especially PIs can develop diabetes and hyperglycemia, a condition where body does not make enough insulin or cannot use it effectively. Clinical studies show that hyperglycemia occurs in 3%-17% of people on PIs. People who already have diabetes before starting ARV treatment could see their diabetes get worse when they start ARV. Your doctor would want to run blood tests on a regular basis (usually every 3-6 months) to check to see if you are developing either of these conditions. If you do develop diabetes or hyperglycemia, your doctor may recommend that you stop your ARV treatment or start treating the diabetes or hyperglycemia. There is little information from clinical trials to tell us whether stopping treatment is useful. Most expert would continue ARV treatment unless the diabetes becomes serious.

Fat redistribution and lipodystrophy

Changes in body fat distribution, sometimes called "lipodystrophy syndrome" can develop in people taking RAV treatment. The changes affect different people in different ways and can include:

- Weight loss, especially in the arms, legs, buttocks or face
- Weight gain, especially in stomach and in women's breast
- Rarely, development of fat deposits at the base of the neck ("buffalo humps")

These changes do not happen in everyone and sometimes develop slowly. Studies have shown that these changes take place in people on PIs and/or NRTIs. The cause of the problem is unknown. The best way to treat these problems is also not known. Some doctors have tried switching treatment regimens, with some success. Most doctors recommend exercise and diet changes as the most effective treatment for lipodystrophy.

Hyperlipidemia

Hyperlipidemia is an abnormal level of cholesterol and/ or triglycerides diagnosed by blood test. PIs especially ritonavir, increase these levels in many people. Why they increase these levels is unknown. Whether these problems are linked with problems of fat redistribution is also not known. Abnormally high levels of cholesterol or triglycerides may lead to heart disease and pancreatitis., including heart attacks and strokes.

The guidelines recommend having tests done to monitor your cholesterol and triglyceride levels before starting treatment and then every 3-6 months after starting treatment. In order to be accurate, these tests should be done before eating any food for the day (fasting state). This is because food will alter the results of the tests.

Before starting treatment, your doctor should ask you questions about your risk for heart disease. These may include questions about your personal medical history, your family's medical history, your diet and exercise practices, your weight and your smoking habits.

Treatment for hyperlipidemia can include taking drugs to lower your cholesterol, changes in diet, exercise, stop smoking, and/or change in your ARV treatment regimen.

Bone problems (osteonecrosis, osteopenia, and osteoporosis)

There have been reports of problems with bone density and fractures of the hip and spine. These may be caused by long-term use of ARV medicines, but there is little research to prove this.

Drug allergy

Allergic symptoms include high fever, skin rash, swollen soft tissue (around eyes or mouth), and difficulty in breathing. Occurrence of these symptoms may mean the person is no longer allowed to use the medicine which caused these symptoms.

Nevirapine can cause allergic symptoms more often than other ARV medicines. To reduce the severity of allergic symptoms, the doctor will prescribe half the standard dose during the first 2 weeks and increase to standard dose afterwards: the standard dose is 1 tablet twice a day.

HIV medications and methadone

Methadone is safe for people with HIV. However it is important to inform your doctor if you are on methadone. In some cases, your doctor may change your dose of an HIV medication if you are on methadone. Some medications make your body use up methadone more quickly. If that happens, you will need a higher dose of methadone.several interactions between methadone and AZT, ddl, d4T, abacavir, nevirapine, efavirenz and nelfinavir have been documented.

Some of the specific side effects with specific medicines	
NRTIs	
AZT	Anemia, darkening of nails
d4T	Numbness of hands and feet, lipodystrophy
3TC	Side effects are uncommon

ddl abacavir	Diarrhea, numbness of hands and feet, pancreatitis Allergic rash
NNRTIs Nevirapine Efavirenz	Allergic rash, hepatitis Vivid dream, dizziness
PIs Indinavir Ritonavir	Nearly all the medicines in this class when taken over a long period, may cause diabetes mellitus, hyperlipidemia and lipodystrophy. Kidney stones, nausea Numbness at tongue and lips, nausea

How to know the treatment is working?

You can be confident that your treatment is working if:

- Body weight has increased back to its usual level and is stable.
- CD4 count increases
- No new opportunistic infections unless treatment was started when immunity was very low. In all cases, after 1 year treatment, there should be no new opportunistic infections.
- After 6 months of treatment the HIV viral load is significantly reduced and in most cases should be undetectable.

How will you know if your treatment has failed?

Ideally, your viral load should drop 90 percent within two months of beginning treatment. Within six months, it should drop so low as to be “undetectable” (fewer than 50 copies/mL). If your viral load does not more or less follow this pattern, your treatment may be failing. Similarly, a drop in your CD4 count may mean your treatment is failing.

What makes treatment failure especially scary is that if one of your medications is no longer working (meaning your virus has become resistant to it), other medications you haven’t even taken yet but which attack HIV in the same exact way—that is, medications in the same class—may also fail. For example, if your combination includes an NNRTI and the NNRTI fails, all other NNRTIs—there are currently three—will have lost their ability to fight your virus. Doctors say if this happens, your virus has become “cross-resistant.” This means that once your NNRTI fails, you won’t be able to take any NNRTIs in the future. The situation is a little less black-and-white with other types of HIV medications. For instance, when your virus becomes resistant to one NRTI or to one protease inhibitor, it won’t necessarily become resistant to all of them.

What to do if you think that your treatment is not working?

- Consult your doctor about the need to change your ARV medicines.
- If there is a medical need to change the ARV medicines the new combination should not include any of the medicines used in your previous combination.
- In the event that the choice of ARV medicines is limited, the new combination should include at least 2 new medicines.

- In the event that there is no other choice available and a new ARV cannot be arranged, discuss with your doctor whether it is better for you to continue your current treatment or stop the treatment together.

When to change therapy

Rebound in viral load

The goal of ARV treatment if you are taking it for the first time is to reduce your viral load to below the limit of detection, which is 50 copies in the tests currently used. When your viral load does not fall to this level, it is more likely that your treatment will not suppress for sustained periods of time. A continued rebound in your viral load from very low level means that your treatment is failing. What may follow is a fall in CD4 count, a possible risk of HIV-related illness, and an on going risk of developing drug resistance. This means that treatment which is not suppressing viral load to below the limit of detection should be changed if there are other drugs available to you which seem likely to achieve this. It is recommended that a test for drug resistance is done to help choose the replacement treatment, or, if this is not possible (i.e. if your viral load is below 1000 copies/mL), that the new treatment involves a completely new sets of drugs.

(Sometimes your viral load may rise to just above the detectable level and fall back below on the next test. This is called a “blip”, and means that your viral load should be retested as soon as possible. Though one off blips may be caused by a problem with viral load testing itself, they should also be a trigger to consider other possible causes, such as drug interactions, adherence problems, illnesses or vaccinations. Regular blips may be a sign that your treatment is more likely to fail.)

Side effects

If your treatment is being changed because of side effects, but your viral load is undetectable, it is okay to switch to only the drug(s) causing problem.

Women and ARV treatment

There are several things a woman needs to consider either before starting or during their ARV treatment.

Birth control

Contraceptive pills are not a suitable method of birth control for women taking ARV because the ARV drugs annul the effect of the contraceptive pills causing failure in birth control.

If a woman is planning a pregnancy or is already pregnant

It is important to understand that some ARV drugs can cause fetal abnormalities. ARV combination recommended for pregnant women are AZT,3TC and nevirapine or d4T, 3TC and nevirapine.

If using a medicine from the PI group, a suitable choice is nelfinavir.

If you become pregnant while taking ARV drugs

If the ARV combination currently being taken is one of those mentioned before, there is no need to stop or alter your treatment.

Efavirenz or the combination of d4T and ddI are not recommended for use in pregnant women.

Caring for yourself and others when on ARV treatment

There are 2 significant points that you should always bear in mind:

1. Prevention of HIV transmission by having safe sex, i.e. using condom is the responsibility of everyone. It is particularly important that a person taking ARV practice safe sex to avoid passing ARV resistant HIV to other people, including people who are already HIV positive, as this will make treatment with ARV more complicated.
2. You should not persuade or try to convince other HIV positive to take ARV if they are not ready or do not want to take ARV, as this may only result in them discontinuing their treatment or taking the ARV incorrectly leading to treatment complications.

References:

1. AIDS can be treated. A handbook of antiretroviral medicines. AIDS ACCESS Foundation, Bangkok, Thailand. July 2004.
2. Making sense of HIV treatment. A patient's guide to antiretroviral therapy guidelines. AIDS Institute New York State Department of Health, 2ND edition, June 2004.
3. HIV medications. When to start and what to take. A roadmap to success. www.thebody.com