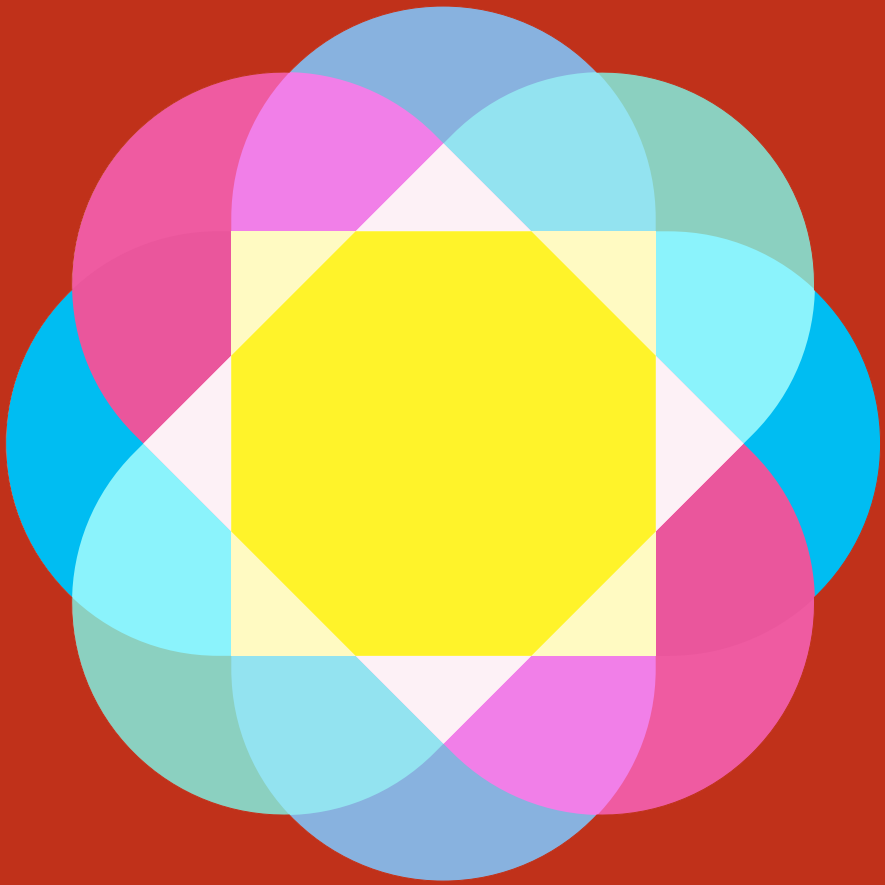
Introduction to combination therapy

July 2010



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Contents

Written and compiled by Simon Collins for HIV i-Base with thanks to an extended advisory group of HIV-positive people and community advocates. Design by No Days Off. Funding thanks to The Monument Trust. Not-for-profit copying is encouraged or call for additional free copies. Disclaimer: information in this booklet is not intended to replace information from your doctor. Decisions relating to your treatment should always be taken in consultation with your doctor. HIV information dates quickly, please call to see if up-dated information is available.

If you have questions after reading this guide, i-Base runs a free treatment information phoneline for information and support on all aspects of HIV treatment.

Phoneline 0808 800 6013
Monday– Wednesday, 12–4 pm

The website also has a question and answer service where questions can be answered online and by email.

Introduction

This guide includes information about the most important aspects of HIV treatment.

It is written and reviewed by HIV-positive people and it uses everyday language to explain medical terms.

Although if this is all new to you, many of the issues relating to treatment can be scary, this booklet should help you feel more in control of your treatment.

We have updated this guide at least every year for the last ten years because information about HIV can change quickly. Make sure any other information you read is up to date and be cautious of information, whether printed or from the internet, that is not clearly dated

If you are reading this after July 2011, please call i-Base for a new edition.

Information is based on the latest (2009) guidelines in the UK, Europe and the US, which are all available online.

www.bhiva.org

www.eacs.eu

www.aidsinfo.nih.gov

All guidelines stress that HIV treatment should be individualised and the information in this guide is meant to help in discussions with your doctor.

Changes to this edition include:

- Differences between the current UK and US guidelines about starting treatment at higher CD4 counts.
- The START study is discussed in the context of earlier treatment.
- The test for recent infection (within six months) is now also referred to as RITA rather than STARHS in the new programme by the Health Protection Agency (HPA). This test is recommended for anyone who thinks they have a recent infection.
- A new reference about the benefit of carrying a few days additional meds in you travel is included in the adherence tips.
- Information on new drugs or new formulations and the ARV chart has been updated.
- The information on HIV treatment during pregnancy includes not to panic if you become pregnant when on efavirenz and that AZT is being used less frequently.

First questions: what, when, why?

What is combination therapy?

Combination therapy is the term for using three or more drugs to treat HIV. It is also called triple therapy or HAART (Highly Active Anti-Retroviral Therapy).

HIV drugs are called antiretrovirals (ARVs) because HIV is a type of virus called a retrovirus.

Do the drugs really work?

In every country that uses ARVs, there has been a dramatic drop in HIV-related deaths and illnesses.

Treatment works for women, men and children. It works no matter how you were infected. Whether this was sexually, through IV drug use, at birth, or by blood or blood products.

Taking HIV drugs exactly as prescribed, will reduce the virus in your body to tiny amounts - but it does not get rid of the virus.

Does everyone need treatment?

Over 95% of HIV-positive people will need treatment.

But HIV infection progresses at very different rates in different people.

- About 20% of people may need treatment 1-2 years after infection.
- Half will start treatment after 2-10 years, at an average of tive years.
- About a quarter of people can stay well for over 10 years after infection without using treatment.
- 2-3% of people can go for 15-20 years and still have a strong immune system without treatment.

When you need treatment is something you have to discuss with your doctor. This will usually take place over several visits.

- Ask as many questions as you need to until you are happy with the answers.
- Get information from other sources. This includes the internet, friends, newsletters and phonelines.

Even if you are well, it is a good idea to get to know something about treatment now, before you need it.

This is particularly important if your CD4 count (a marker of your immune system)is declining, or if you have a high viral load.

How do the drugs work?

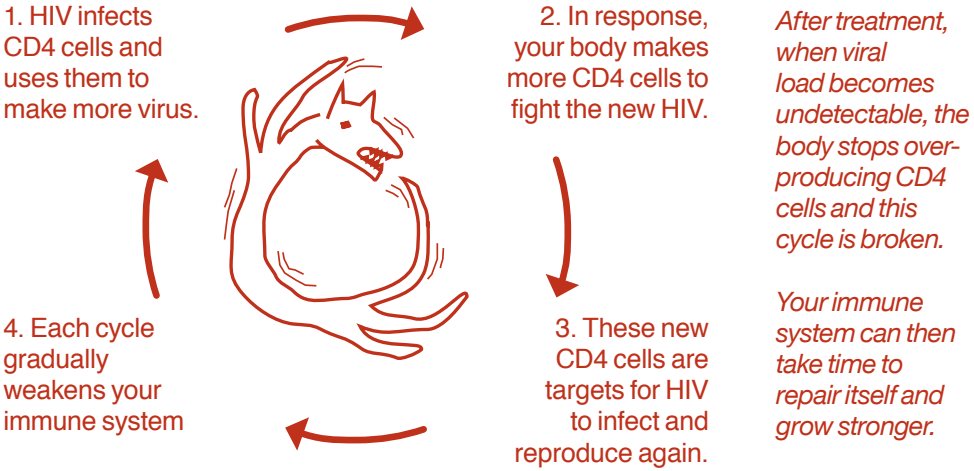
HIV drugs work by stopping the virus from making copies of itself.

This brings viral load down to tiny levels. Your immune system (including your CD4 count) then has a chance to become stronger again.

When not on treatment, your immune system is working in overdrive. HIV infects CD4 cells to make more virus. Your body produces new CD4 cells to fight the virus but HIV just uses these cells to keep reproducing. It is like a dog chasing it's own tail! (See Figure 1).

This cycle of immune activation is now thought to lead to other health complications.

Fig 1: When not on treatment, your immune system works in overdrive



It is one of the reasons that people are now using treatment.

When you are on effective treatment, this overactivation stops.

There are now over 25 drugs that work in at least five different stages of the HIV life cycle. (See Figure 5 on page29).

Your CD4 count and the risk of becoming ill

Your CD4 count is the most important test for your risk of becoming ill. It is the most important test for deciding when to start treatment. How quickly your CD4 count is falling is also used in this decision.

While your CD4 count is above 350 you still have a good immune system. Below 350 you are at a higher risk of infections that cause diarrhoea and weight loss.

If your CD4 count falls below 200 your risk of developing a pneumonia called PCP increases.

Below 100 your risk of very serious illnesses increases further.

A low CD4 count does not mean that you will definitely become ill. It is just more likely. Most drugs used to treat these HIV-related illnesses are much more difficult to take than anti-HIV drugs.

Although you may be worried about treatment, HIV is still a very real and life-threatening illness. You can delay treatment until it is too late.

Illnesses can occur at any time but when your CD4 count is below 200 they can be fatal.

Some studies show that starting treatment at CD4 counts between 350 and 500 may reduce the risk of other health complications. Other studies do not find a difference.

Above 500 the evidence for whether earlier treatment will have a clinical benefit is even less clear. The START study is running to try to get evidence that can answer this question.

Two essential blood tests: CD4 and viral load

Your CD4 and viral load results are the main tests used to monitor your health.

CD4 tests

- CD4 tests measure your immune system. Results are given as cells/mm^3. Above 500 is considered 'normal'.
- Your CD4 count is important for deciding when to start treatment.
- Even if you start with a very low CD4 count, once you start treatment, your immune system can become strong enough for your body to be able to recover from HIV-related illnesses.

Viral load tests

- Viral load tests tell you how much virus is in a small sample of blood. Results are given as copies/mL.
- If you are on treatment, viral load tests show how well your treatment is working. You need to aim to get this 'undetectable'. This means less than 50 copies/mL.
- Once viral load is undetectable, this test shows whether the drugs continue to work.
- If the viral load doesn't become undetectable or it increases later, it means the drugs may not be working or that you may not be taking them correctly.
- Any unusual result should be checked with a second test before making treatment changes.
- A high viral load (over 100,000 copies/mL) can be a reason to start treatment at any CD4 count.

How long will the drugs work?

Regular monitoring using blood tests will check that the drugs are working and that they continue to work.

How long a combination works depends on not developing resistance.

To prevent resistance developing you need to get viral load to undetectable levels and then keep it there. To achieve this you need to take all your meds at the right time.

Getting an undetectable viral load is the first goal of treatment. If your viral load stays this low, you can use the same combination for many years.

Around 95% of people whose viral loads stay undetectable for the first year, will continue to be undetectable for each following year.

‘I was diagnosed with HIV in 1997 and had to start on treatment when I was still in shock.

I discussed the pros and cons of each drug with the nurse but most of it went in one ear and out of the other. I needed time to find out about the different drugs and side affects, but with a low CD4 count I needed to start treatment soon. The information I got from the clinic was detailed and complex.

I was lucky. I had a good network of positive friends and got sound advice in terms I could understand.

Over the past ten years, I have seen treatments become easier to take with far less side effects.

HIV treatment is not rocket science. You can easily learn about it. I am sure I get better treatment for my HIV because I understand what is going on. This gives me the confidence that I should live a long and happy life, just with a manageable illness.

I talk with my doctor and I take an active role in my choice of treatment. I always say if I have problems with side effects or adherence.’

Paul, London

There is no built-in time when treatment will stop working or wear out. If you are carfeul to take the drugs on time, as they are prescribed, you can in theory use the same combination for ever.

Can I take a break in my treatment?

Once you start treatment, taking a break in the future is not generally recommended unless there is a medical reason.

The largest study to look at treatment interruptions (the SMART study) found that the risk of illnesses and deaths was higher in people who stopped treatment, compared to people on continuous treatment. This included both HIV-related and non-HIV-related illnesses like serious heart, liver or kidney-related disease.

In people who took an interruption, the average CD4 count was still 150 cells lower 18 months after restarting treatment than it was at the beginning of the study.

- Stopping treatment for any period is not generally recommended.
- Your viral load can increase again very quickly (within weeks). Each interruption also carries a risk of developing drug resistance.
- If you want to take a break it is essential you talk to your doctor first.

Does treatment always work?

For some people the treatments will not work as well.

- The combination may not be strong enough.
- You may already be resistant to one or more of the drugs in your combination.
- Missed or late doses can lead to resistance (even if you are only missing one dose a week).
- One or more of the drugs may not be absorbed properly. There can be big variations between people and tests can check for this.
- Side effects may be too difficult to tolerate.

Trial results never show a 100% responses. BUT if you have a good doctor and you follow your regimen carefully, anyone starting treatment for the first time should be able to get an undetectable viral load.

Success rates for people on their second or third therapy are usually lower than for those starting treatments for the first time.

This is often because people make the same mistakes when they start a new combination without understanding why the original one failed.

If you need new drugs in order to put together a new combination, then make sure you and your doctor know about the latest options.

Can I change treatments?

If your first combination is too difficult to follow, you can change the drug or drugs that are causing the problem. Initial side effects usually improve after the first few weeks.

If this is your first combination, you have many choices. You should not put up with difficult side effects for months on end.

Some people use one combination to get their viral load undetectable, and then change to an easier combination afterwards.

A few people may change quickly, occasionally after days. Everything in HIV care is individual.

Should I enter a study?

Many hospitals are also research centres and you may be asked to join a study.

If you are interested in the study, take time to find out about the details. Ask for independent advice. Women should ask the percentage of women that are included in the study.

Remember that many combinations with proven effectiveness are already available to use. There is no need to join a study if you do not want to.

If you are recently diagnosed, or are only just finding out about treatment, you should not feel pressurised into taking part.

Ask about the alternatives to the treatment in the study. Ask what advantages or risks that the study offers over existing treatment.

Your future care will not be affected if you choose not to take part in a trial.

However, well-planned research can often offer better monitoring and care than you would normally receive at your regular clinic. This may mean a few more clinic visits.

Research is important for developing new treatments. It can improve our knowledge of how to use both new and existing drugs.

What about alcohol and recreational drugs?

Some HIV drugs interact with recreational drugs, street drugs, methadone and complementary treatments.

The interactions can be complicated and can increase or decrease levels of HIV meds or other drugs.

It is therefore important that your HIV doctor and pharmacist know about any other drugs or supplements that you use. Even if you use them rarely. Your doctor will treat this information in confidence.

Alcohol does not interact with HIV medications. However, alcohol use, as with recreational drug use, may reduce adherence.

This link to adherence has been reported in many studies with poor adherence directly linked to the ammount a person drink.

It would help if your doctor knows about this.

What is 'treatment-naive'?

'Treatment-naive' or 'drug-naive' refers to someone who has never used HIV drugs.

Someone who has used drugs before is called 'treatment-experienced'.

What else do I need to know?

Ongoing research means that ideas about how to use anti-HIV drugs changes. The treatment that your doctor will use today may be different from 12 months ago.

This isn't just because there are newer drugs available. It is to do with a better understanding of how the drugs work, why they sometimes stop working, and increasing knowledge about drug resistance.

Treatment guidelines change as we learn more about HIV through research.

Ask questions about any aspect of treatment that you don't understand. You can then take responsibility for whatever you decide.

Are the drugs a cure?

The current drugs are a treatment, but they are not a cure. They stop the progression of HIV. They let your immune system start to repair itself. For most people, their CD4 count becomes stronger but you will still be HIV-positive.

Even people taking combination therapy for many years, with a viral load below 50 copies/mL, still have very small amounts of HIV. This HIV is in cells that are 'resting' or 'sleeping' and is not reached by current drugs.

These sleeping cells are one of the reasons that it is difficult to find a cure for HIV. Some of these cells can sleep for 70 years.

You may need medication for a long time, but newer drugs may be easier to take and be more effective.

This means you may still get to die from old age rather than from HIV.

It may also mean that you are still alive when a cure is found - and this is something good to aim for.

‘I was caught by treatment in 1996, just in time. I did not think that it would make a difference. Now that I understand how the drugs work, I know that they are active, whether I “believe” in them or not.

Ask questions about anything you don’t understand. You can then take responsibility for whatever you decide.

Look at treatment as something you have to be really committed to for the next few years. Take this new aspect of your life more seriously than anything else until you get it right.’

Simon, London

Age, gender and pregnancy

How do children use HIV treatment?

The principles for treating children with HIV are very similar to those for treating adults. However, there are some important differences.

The immune system and drug absorption can be different in babies, toddlers, infants, children, adolescents and adults. This is why specialist paediatric HIV care is recommended for children of all ages.

CD4 counts are higher in children than adults. A new-born baby, for example, can have a CD4 count that is 3000 cells/mm^3. Because of this, children are usually monitored using CD4 percentage (CD4%).

This is the percentage of white blood cells (lymphocytes) that are CD4 cells. The CD4% of an HIV-negative person is around 40%.

A CD4% of 12-15% is similar to a CD4 count of about 200 in an adult (22% is about 350 and 25-30% is about 500).

There are separate treatment guidelines for children. However, they tend to be updated less frequently than adult guidelines. It is therefore important to be aware of changes in adult care that may be just as relevant for children.

For more information about children and HIV, visit the Children with HIV Association (CHIVA) and PENTA websites:

www.chiva.org.uk

www.penta.org

Is age an important factor in adults?

As you get older, HIV treatment becomes more important.

The UK treatment guidelines (www.bhiva.org) include a useful table on the risk of AIDS illnesses at different CD4 and viral load levels.

Importantly, this includes separate tables for ages 25, 35, 45 and 55. All risks increase with age.

Many researchers are looking at HIV and ageing. This is becoming a specialist subject and HIV services are changing to reflect this. New services are being developed for older patients.

Starting treatment in your 20s or 30s may help your immune system by keeping your thymus working longer. This small organ makes the type of CD4 cells (called naive cells) that develop new immune responses.

Are recommendations the same for men and women?

Very few differences have been seen in responses to HIV treatment between women and men. One of these is that at the same CD4 count, women can have a slightly lower viral load than men. Some studies also show that women have a higher risk of becoming ill than men at the same CD4 count.

This may be a reason for women to start treatment earlier than men.

What about treatment in pregnancy?

HIV can be treated very safely and effectively during pregnancy.

In addition, treatment with combination therapy that reduces viral load to below detection, dramatically reduces the risk of transmitting HIV to your baby to almost zero.

Treatment during pregnancy is a specialised area.

For more information see the i-Base guide 'HIV, Pregnancy and Women's Health'.

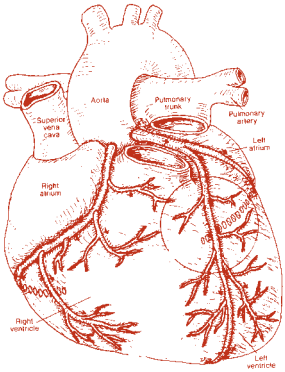
Age, HIV drugs and heart disease

Risk factors for heart disease include smoking, age (over 45 for men and over 55 for women), sex (male), lack of exercise, family history of heart disease, alcohol, high blood pressure and diabetes.

Other risk factors associated with heart disease include raised levels of cholesterol and triglycerides, which can be a side effect of HIV treatment.

Untreated HIV may also be a risk. Generally, the benefits of HIV treatment far outweigh any additional risk of heart disease.

The largest study looking at heart disease and HIV treatment, reported an increased risk of heart disease related to some HIV drugs.



The most recent analysis linked this to the protease inhibitor Kaletra and to the nucleoside analogue abacavir.

It is important to know your underlying risk of heart disease if you are using either of these drugs.

An assessment of cardiovascular and HIV risk factors is therefore recommended for everyone before starting HIV treatment.

Free risk assessment programmes are available on the internet. See:

www.riskscore.org.uk

(UK site with measurements in mmol/L)

hp2010.nhlbihin.net/atpiii/calculator.asp

(US site with measurements in mg/dL)

As in the general population, making lifestyle changes to reduce your risk of heart disease is good advice if you are HIV-positive.

This becomes even more important the higher your overall risk.

Deciding when to start treatment

When should I start treatment?

Okay, this is the big question that everyone worries about.

The answer depends on many things including:

- Your current health, including whether you have other complications such as TB or hepatitis coinfection.
- Your CD4 count, CD4% and viral load and how fast they are changing.
- Your age and how long you have been HIV-positive.
- Whether you are pregnant.
- Current guidelines and available drugs.

It also depends, very importantly, on whether you are ready to start treatment.

You are the person who has to take the pills. So you have the choice over when you start, as well as which drugs you use.

Discuss this with your doctor long before you need treatment, including when you are first diagnosed.

- Ask about the different drugs that you can use. You need to know the good and bad things about each of them.
- Take time to think about what you want to do. Do not feel rushed or pressurised into doing something you don't understand.
- If you have only recently been diagnosed, you are likely to need time to come to terms with this before you are ready to start treatment.

CD4 count and guidelines

All guidelines recommend starting treatment based on your CD4 count.

The lower it drops the more important your need to start. Most guidelines now recommend treating anyone whose CD4 count is below 350 and all recommend treating before it falls below 200.

This is because:

- With a CD4 count below 350 your risk of serious illness increases
- Treatment will protect your immune system and increase the chance of reaching a 'normal' CD4 level above 500.

With counts just below 350, you have time to understand your choices. This is true even just below 200 when a few weeks either way will not make much difference.

In December 2009, the US guidelines recommended treatment for anyone with a CD4 count below 500 and an option to start above 500. UK guidelines in 2010 are unlikely to change from the current cut-off of 350.

Guidelines also recommend that you consider treatment, whatever your CD4 count, if you have:

- an HIV-related illness
- hepatitis B or C
- TB coinfection
- a high risk of heart disease.

Early diagnosis and primary infection

If you think that you were infected within the last six months ('primary infection'), you can ask for a special HIV test (called STARHS or RITA). Knowing when you were infected can help you track how fast HIV progresses. Your doctor can get this test free from the Health Protection Agency (HPA) HIV lab in Colindale (020 8200 4400).

Generally, unless you have symptoms, treatment in primary infection is only provided in clinical trials.

If you are interested in a trial, talk to your doctor, or contact the research units at St Mary's Hospital (020 7886 6047) or the Royal Free Hospital (020 7472 6232) in London.

Using treatment at higher CD4 counts: the START trial

A large international study called START is looking at whether it may be better to start even earlier - when your CD4 count is above 500 cells/mm^3.

This is likely to be the most important study in the next five years. No other randomised trial has answered this question.

If your CD4 count is still over 500 and you are interested in earlier treatment, talk to your doctor about in this study.

The use of earlier treatment is due to three main factors:

- Treatment reduces the risk of less common but serious illnesses, even at relatively high CD4 counts;
- Drugs used in most Western countries are now more tolerable. They have fewer side effects and require fewer daily pills and doses.
- Your CD4 response to treatment is related to the lowest level before your start (called the CD4 nadir). By starting treatment at a higher CD4 count, you keep more of your immune system. This increases the chance of reaching 'normal levels (over 500 cells/mm^3). (See Figure 2).

However, there are benefits and risks from both earlier treatment and from delaying treatment. This is why we need information from the study.

Late diagnosis and low CD4s

Most people are still diagnosed late. This is defined as being after the CD4 count drops below 350.

Even in the UK, one third of people are still diagnosed when their CD4 count is already less than 200 cells/mm^3.

This is related to many factors, including:

- Fear of testing
- Predudice
- General denial: 'it will never happen to me'
- Fear of stigmatisation
- Lack of up-to-date information about HIV

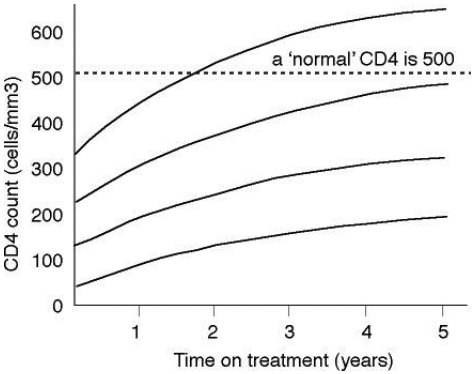
Many people, across all age ranges, only find out they are HIV-positive when they become ill and are admitted to hospital.

This often means starting treatment straight away, especially when the CD4 count is below 100 cells/mm^3.

Even with a very low CD4 count, even below 10 cells/mm^3, if you follow your treatment very carefully, you have a good chance that treatment will work. Your viral load will drop and your CD4 count will rise again to safer levels.

This should not be seen as a reason to delay treatment. Starting with a very low CD4 count can often cause dormant infections, such as TB to activate. This is called Immune Reconstitution Syndrome (IRIS).

Fig 2: Average CD4 increases by starting CD4 count



Starting when your CD4 count is higher makes it more likely that your count with increase to normal levels. This may be important when using treatment for 20, 30 or 40 years.

‘I got a shock diagnosis in January 2002 and immediately worried about dying. I pictured myself as a person in the media adverts for African people with AIDS who were just bones and skin.

My viral load was 650,000 and my CD4 was less than 10. Therefore I had to start ART immediately.

I read the leaflets and could not believe I was on treatment for HIV! I was only sleeping for two hours a night with very vivid dreams - mainly nightmares related to the ARV efavirenz.

Because my CD4 count was so low when I started, the increase in CD4 cells caused TB to activate. So I started on TB treatment, taking up to18 tablets a day. I asked the pharmacist to have the TB meds as an oral solution as I couldn’t swallow the large grey tablets.

Now, seven years on, I take my HIV medication every day and at the right time. I would love to go back home, but a lot of people in my country have no access to ARVs.’

Memory, London

What about side effects?

All medicines have some risk of side effects. It would be wrong to pretend that everything is easy and sorted.

This is something that everyone worries about.

However:

- Most side effects are usually mild.
- They can often be reduced with other medication that is easy to use or by switching to other drugs.
- There is only a small risk of serious side effects. It they occur, these should be picked up by routine monitoring.
- Within a few weeks most people find that taking HIV treatment is much easier than they expected. It usually becomes an ordinary and manageable part of daily life.
- If you are unlucky and need to modify your combination, there is a wide choice of alternative drugs that are likely to work better for you.

Ask your doctor, nurse or HIV pharmacist about the most common side effects of the drugs that you might use.

- Ask how likely they are to occur.
- Ask how many people stop treatment because of them (usually very few).
- Even rough estimates will give you a good idea of what is involved.

Common side effects

Even common side effects like nausea (feeling sick), diarrhoea and tiredness, are less common with modern treatments. They usually become easier after the first few weeks.

Very rarely, nausea and tiredness can be a symptom of another illness. This is why you should tell your doctor of any problems.

If the first anti-nausea or diarrhoea medications do not help, ask for more effective drugs.

One of the most used drugs (efavirenz) can affect sleep patterns and change your mood. You need information about this before starting treatment. These side effects are usually strongest when you first start treatment.

They usually reduce in most people over the first few weeks. If the side effects continue, you can use another drug.

‘Get involved in choosing your treatment. It needs to fit to your life, schedules and routines as much as possible.

Being able to share with my relatives and close friends has helped me a lot. My boyfriend always asks me if I took the pills on time.

I’ve been taking HIV treatment for the last 20 years. When I started, no one would had imagined the choice we have now. I now feel truly optimistic about the future.

As new drugs become available, choices will become even more individualised. A good relationship with our doctors and nurses is important: we’ll probably need to see them for years!’

Xavi, Barcelona

Lipodystrophy and metabolic changes

Lipodystrophy refers to changes in fat cells and the distribution of body fat. It also refers to changes in blood fat and blood sugar levels (metabolic changes).

We do not know what causes all these changes, which usually, but not always, develop slowly over many months.

Yet, this is one of the biggest worries for people who are about to start treatment.

The greater awareness of lipodystrophy means that you will be monitored carefully.

If you have any worries, make sure your doctor takes them seriously and does something about it.

Fat loss (from arms, legs, face and buttocks) is linked to two drugs - d4T and AZT. As these drugs are less used in first-line therapy, fat loss is rare.

Fat accumulation to the stomach or breasts and/or across the shoulders or neck has been linked to combinations that include protease inhibitors and NNRTIs.

Mild symptoms may reverse if you switch to different HIV drugs. Exercise and dietary changes can also help.

Changes in fat (cholesterol and triglyceride) and sugar (glucose) levels are linked to many drugs and will be monitored by routine blood and/or urine tests.

Diet, exercise, changing treatment or using lipid lowering drugs are all options.

Other side effects

More serious side effects can occur with most combinations, although more rarely. They are also linked to specific drugs.

It is important to be aware of the side effects for all the drugs in your combination, before you start treatment.

The i-Base 'Guide to Avoiding and Managing Side Effects' includes detailed information about side effects and each drug:

www.i-base.info/guides

It also contains useful information about long-term health issues that may be related to both HIV and some of the drugs used in treatment.

Your routine monitoring should also include heart disease and bone health.

For a free copy please call 020 7407 8488.

You and your doctor

Develop a good working relationship with your doctor and other healthcare workers. This can help your health in the long-term.

Nurses and pharmacists can give you support and advice on all aspects of your treatment. This includes on adherence and side effects.

These people can make referrals to other professionals, including dieticians, psychologists and social workers.

Both you and those involved in your care have certain rights and responsibilities. The following lists include some of your rights and responsibilites as a patient.

Your rights as a patient

- To be fully involved in all decisions about your treatment and care.
- To be seen within 30 minutes of your appointment. If they are running late, you should expect an explanation.
- To be treated with respect and confidentiality.
- To have different options for treatment explained to you. This should include the risks and benefits of each option.
- To have your doctor or nurse explain any test results.
- For your records to be kept securely. They should be made available for you to see if you ask.
- To choose whether to take part in research trials. This will not affect your current and future care.
- To make a complaint about your treatment. Any complaint must be fully investigated. Again, this must not affect your future care.
- To have a second opinion from a suitably qualified doctor.
- If you write to your hospital or clinic, you should have a written response within 14 days.

- To change your doctor or treatment centre without it affecting your future care. You do not have to give a reason for changing doctors or clinics. However, if there has been a misunderstanding, then giving a reason can sometimes help resolve the problem.
- To have test results and a summary of your treatment history forwarded to your new doctor or clinic.

Things you can do to help

- Find a clinic that is convenient to you and that you feel comfortable with.
- Find a doctor who you like. If you are a woman and want to see a female doctor then ask for this.
- If you are a gay man and want to see a gay doctor, this may influence your choice of hospital.
- Make a list of things you want to discuss with your doctor. Remember to take it to your appointment!
- Ask to see the same doctor at each visit. This is important. It's difficult to develop a good relationship if you always see a different doctor.
- Have your routine bloods taken 2-3 weeks before your regular clinic visits so the results are ready for your appointment.
- Turn up for your appointments on time. Tell the clinic if you can't make it. Then they can give your slot to another patient.
- Treat all people involved in your care with the same respect you would wish to receive yourself.
- Listen carefully to the health advice that you are given, and act upon it.
- If you don't understand something, ask your doctor to explain it again or in a different way.
- Be honest with those caring for you. Tell them about any other drugs that you are taking. This includes legal and illegal drugs or complementary treatment.
- Be honest about your level of adherence. If the people managing your care don't know you are having problems, they can't help.

Adherence and why it is so important

What is adherence?

Adherence is a word to describe taking your drugs exactly as prescribed. This includes taking them at the right time. It also includes following any special diet restrictions.

Adherence is the most important thing you have to think about when you start taking a new combination.

This makes sure that all the drugs in your combination are at high enough levels to keep HIV under control 24 hours a day.

Developing a routine or daily schedule can really help. You may need some support to get used to the changes treatment makes in your life. Adherence can be very difficult.

Start treatment when you can give yourself the extra time and space you may need to adjust.

During the first few weeks nothing else should take priority over getting your treatment right.

Some treatment centres have a health advisor who can help you.

How much is enough?

Unfortunately, the answer is 'almost 100%'... Even missing one or two doses a week can reduce the chance of success, especially when first starting treatment.

Taking medication exactly on time is very important. However, there is usually a window period of about an hour that is still okay. Some drugs and some people have a wider window period than others.

Because of this variation it is better to aim for the same time each day.

Diet restrictions are very important. Ignoring these can be like only taking half a dose. You will not absorb enough of the drug for it to work properly.

Tips to help

- Choose a treatment you think you can manage. Get all the information on what you will need to do before you start treatment: How many tablets? How big are they? How often do you need to take them? How exact do you have to be with timing? Are there food or storage restrictions? Are there easier choices?
- Plan your timetable (see page 24). For the first few weeks mark off each dose and the time that you took it.
- Contact your doctor if you have difficulties with side effects. S/he can prescribe additional medication to help and change the treatment if necessary.
- Use a daily or weekly pill box. Then you can check if you have missed a dose.
- Use a pill beeper or alarm watch for both morning and evening doses.
- Take extra drugs if you go away for a few days. Be prepared in case flights or other travel arrangements are changed.
- Keep a supply where you may need them in an emergency. This can be in your car, at work or at a friend's house.

- Ask a friend to help you remember difficult dose times. Ask them to remind you when you are out at night.
- Ask friends what they do and how well they are managing. Most clinics can arrange for you to talk to someone who is already taking the same treatment.
- Ask your doctor for a supply of medications to control nausea and diarrhoea. These side effects are more common when starting therapy.
- Many combinations are taken once-daily. This usually means taking them every 24 hours. Twice-daily drugs need to be taken every 12 hours.
- Completely missing a once-daily combination may be more serious than forgetting a twice-daily dose. Adherence is especially important with once daily combinations.

What if I forget to take my pills?

Almost everyone will forget or be late with their drugs at some time.

There is a difference though between occasionally missing a dose and regularly forgetting on a daily or weekly basis.

- Be strict with yourself in assessing how adherent you are
- If your adherence is not good, you need more support. It is available but you will need to ask.

If you are regularly taking your HIV meds late or missing doses completely, talk to your doctor, nurse or pharmacist about other options.

There may be an easier combination that you can use.

You need a regimen that you can follow everyday. This includes both during the weekend and in the different situations involved in life.

Taking days off treatment is a very dangerous way of using HIV drugs.

There are always things that can help you to avoid missing doses, whatever your lifestyle.

If you realise you have missed a dose, take it as soon as you remember.

BUT, if you only realise when you're going to take your next dose, do not take a double dose.

Drug names		Recommended adult dose *	Total daily pills
Nukes: nucleoside or nucleotide reverse transcriptase inhibitors (NRTIs)			
Dual nukes			
Truvada (tenofovir 300mg + FTC 200mg)		One tablet, once-daily.	1
Kivexa (abacavir 600mg + 3TC 300mg)		One tablet, once-daily.	1
Combivir (AZT 300mg + 3TC 150mg)		One tablet, twice-daily.	2
Single nukes			
3TC (Epivir, lamivudine)		1 x 300mg or 2 x 150mg (150mg shown), (taken as a once-daily or twice-daily dose).	1 if 300mg 2 if 150mg
abacavir (Ziagen)		2 x 300mg tablets (taken as a once-daily or twice-daily dose).	2
FTC (Emtriva, emtricitabine)		1 x 200mg capsule, once-daily.	1
tenofovir DF (Viread)		1 x 300mg tablet, once-daily.	1
AZT (Retrovir, zidovudine)		1 x 250mg capsule, twice-daily.	2
ddI (Videx, didanosine)		1 cap, once-daily (125, 200, 250 or 400mg). Take on empty stomach, 2hrs before and after food.	1
Triple nukes			
Trizivir (AZT + 3TC + abacavir)		One tablet, twice-daily.	2
NNRTIs: non-nucleoside reverse transcriptase inhibitors (non-nukes)			
efavirenz (Sustiva)		1 x 600mg tablet, once-daily; at night, not with a high fat meal.	1
nevirapine (Viramune)		1 x 200mg tablet, twice-daily (2 tabs once-daily possible later).	2
etravirine (Intelence)		2 x 100mg tablets, twice daily, take with food.	4

*All doses need to be confirmed by your doctor and pharmacist as different doses and formulations are sometimes used. Some drugs are not recommended for first-line therapy.

Drug names		Recommended adult dose *	Total daily pills
Fixed dose NNRTI + dual nuke combination			
Atripla (efavirenz 600mg + FTC 200mg + tenofovir 300mg)		One tablet, once-daily - a switch option after viral suppression. Guidance as for separate drugs.	1
PIs: protease inhibitors			
lopinavir/r (Kaletra)		2 x 200/50mg tablets, twice-daily. Take with or without food.	4
fosamprenavir/r (Telzir)		1 x 700mg tablets + 100mg RTV, twice-daily. Take with or without food.	2 + 2 tabs ritonavir
saquinavir/r (Invirase)		2 x 500mg tabs + 100mg RTV, twice-daily. Take with food.	4 + 2 tabs ritonavir
atazanavir/r (Reyataz)		1 x 300mg capsule + 100mg RTV, once-daily, with food. 200mg caps also available.	1 + 1 tab ritonavir
darunavir/r (Prezista)		2 x 400mg + 100mg RTV once-daily (naive) or 1 x 600mg + 100mg RTV twice-daily (experienced).	2 + RTV depending on dose
tipranavir/r (Aptivus)		2 x 250mg caps + 200mg RTV, twice-daily. Take with food.	4 + 4 tabs ritonavir
nelfinavir (Viracept)		5 x 250mg tabs, twice-daily. Take with food.	10
indinavir/r (Crixivan)		2 x 400mg caps + 100mg RTV, twice-daily. Now rarely used.	4 + 2 tabs ritonavir
ritonavir (RTV) Meltrex ** (Norvir)		100mg tablets used at different doses to boost other PIs.	Depends on PI
EIs: entry inhibitors, including CCR5 inhibitors			
T-20 (Fuzeon, enfuvirtide)	 not actual size	90mg injection under the skin, twice-daily.	2 injections daily
maraviroc (Celsentri, Selzentry)		150mg or 300mg or 600mg twice daily depending on ARV combination.	2-4
INIs: integrase inhibitors			
raltegravir (Isentress)		1 x 400mg tablet, twice-daily. Take with or without food.	2

** Ritonavir Meltrex tablets replace the previous capsule formulation that required refrigeration.
Thanks to www.aidsinfo.nih.gov for some images. Pictures approximate to actual size. www.i-Base.info

Adherence diary

Use the table below to mark when you take each drug in the first few weeks of your combination. This will help you know if you have just taken a dose - or if you are late or miss a dose. Getting everything right from the start is important.

Date at start of week _____

	Drugs & times (morning)	Drugs & times (evening)
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

Date at start of week _____

	Drugs & times (morning)	Drugs & times (evening)
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

Resistance

What is resistance?

Drug resistance occurs when the structure of a virus makes tiny changes that stop the treatment from working. These changes are called mutations.

- You cannot develop resistance if you are not taking treatment.
- You can be infected with a strain of HIV that is already resistant to some or all HIV drugs.

About 5% of new infections in the UK are resistant to one or more drugs.

This is why in the UK everyone should have a resistance test when they are diagnosed and before starting treatment.

You may need to ask for this test.

How does resistance occur?

Mutations that lead to drug resistance are generally only produced if you continue taking a treatment when you have a detectable viral load.

If your viral load is still above 500 copies/mL after 2-3 months, or above 50 after 6 months, you may have developed resistance and may need to change drugs.

Your doctor should look closely at why the results are not as good as they could be. They will want to discuss how you are managing adherence and side effects. They should also test for resistance and possibly drug levels.

Resistance can develop even at viral load levels between 50 and 500 copies/mL.

You should have a viral load test four weeks after starting or changing treatment. This should then be checked every 3 months when on treatment.

Get the results when they are ready, usually within two weeks. Don't just wait until you next routine visit.

Some clinics let you get your blood tested 2-3 weeks before you see your doctor. Then you will have the results back for the appointment.

What happens if my viral load rebounds?

If your viral load has increased, you should then get a second test on the same day, to confirm the results.

Often slight increases are due to errors in the test. You can also have small increases that go back down again that are called 'blips' or 'spikes'.

The second test will check what is happening. If the combination is failing then you reduce the risk of further resistance by checking this straight away.

You will get a better response to a second treatment if you change when viral load levels are still low.

How do I avoid resistance?

The best way to avoid resistance is to take all you meds on time, every day. But you also need to be using a combination that is strong enough to control the virus.

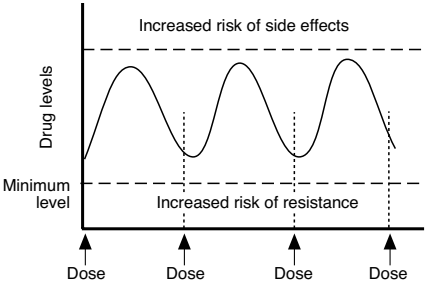
Avoiding resistance is more important than increasing in your CD4 count. Avoiding resistance will let your treatment work long-term.

If you get your viral load to less than 50 copies/mL you dramatically reduce the risk of resistance. If you are starting treatment for the first time this is a realistic goal.

What is cross-resistance?

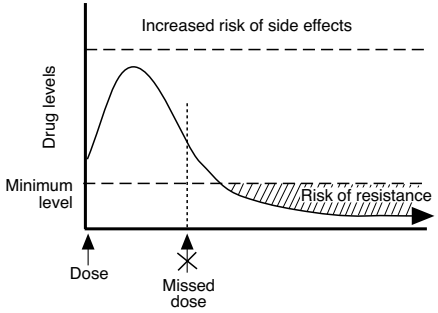
Cross-resistance is when resistance to one drug causes resistance to other similar drugs, even if you have never taken them before. This is particularly true of drugs in the same type of class.

Fig 3: Drug levels with good adherence



Drug doses are calculated so that average drug levels are high enough to be active against HIV without risking resistance - 24 hours a day - and low enough to minimise the risk of side effects.

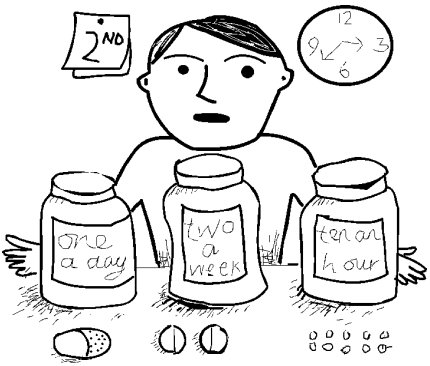
Fig 4: A missed or late dose increases the risk of resistance



Missing or being late with a drug lets the drug levels fall to a level where resistance can develop.

The more often you are late or miss a dose, the greater the chance this will occur.

Which drugs, which combination?



What is the best combination?

There isn't one answer to this question. This is because drugs that agree with one person can be more difficult to tolerate for another.

Any combination should be:

- Strong enough to reduce your viral load to below detection.
- One you can tolerate AND follow the daily schedule AND stick to any dietary restrictions.

Guidelines recommend a few combinations first. The most commonly used ones are discussed on the next few pages.

Your doctor will discuss with you which combinations are more likely to get your viral load undetectable. If you have taken HIV drugs before, or have drug resistance, this will affect your choice.

Ask for information about dosing schedules, pill size and side effects. This will help you pick a combination that is right for you.

Main types of HIV drugs

There are five main types of drugs that work at different parts of the HIV lifecycle. (See Figure 5).

RTIs or nukes	Reverse transcriptase inhibitors - also called nucleoside or nucleotide analogues
NNRTIs	Non-nucleoside reverse transcriptase inhibitors or non-nukes
PIs	Protease inhibitors
EIs	Entry inhibitors - CCR5 inhibitors are also entry inhibitors
INIs	Integrase inhibitors

With over 25 HIV drugs there are hundreds of potential choices. However only two main types of combination are used in first-line combinations.

UK guidelines recommend either:

2 nukes + an NNRTI
or
2 nukes + a boosted PI

Within each class, only a few drugs or combinations are recommended. But it is good to know other options are there if you need them.

First combination

In the UK the preferred first combination is usually an NNRTI + two nukes:

efavirenz + Truvada (tenofovir+FTC)

This is because efavirenz is one of the best drugs at bringing down viral load and it is one pill, once-daily. Even though side effects are not straight-forward, the risk of serious side effects is low.

Truvada is a combination of tenofovir + FTC. It is one-pill taken once-daily.

These three drugs are also available in a single pill called Atripla. This one-pill option should usually only be prescribed once you have successfully responded to the same drugs taken separately.

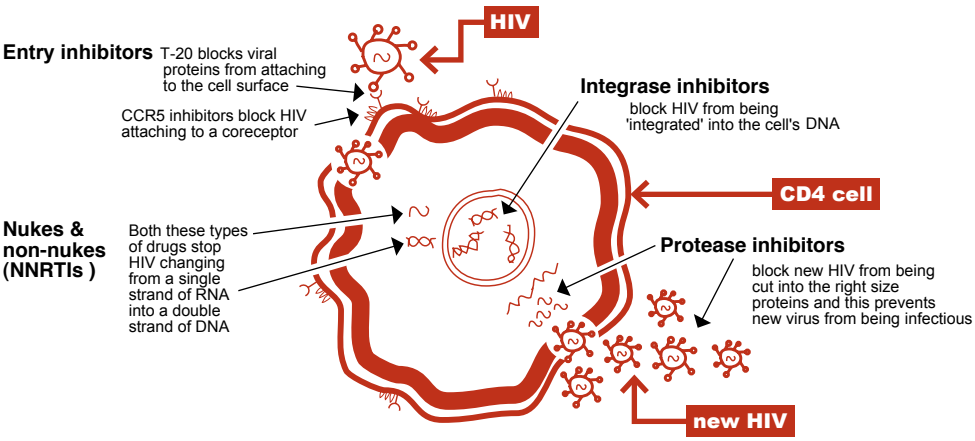
In Europe this is because tenofovir is recommended to be taken with a meal to increase drugs levels. Efavirenz can be taken with or without food, but not with a high fat meal (as this increases the risk of side effects).

In practice, once your viral load is undetectable, Atripla can be taken with or without food.

If you don't want to use efavirenz because of the type of side affects it

Fig 5: HIV lifecycle - how drugs work in different ways

Each CD4 cell is used to produce hundreds of copies of HIV. Different drugs block different parts of the HIV lifecycle.



causes or because you want to become pregnant, then the current choice is to use a boosted PI. (See page 32).

An alternative to Truvada is Kivexa. This is a one-pill once-daily combination of two different nukes: abacavir + 3TC.

Starting on efavirenz

UK guidelines recommended efavirenz as first choice because it is once-daily drug with a lower risk of serious side effects.

However, the main side effects of efavirenz relate to the Central Nervous System (CNS). These can include mood changes such as anxiety, euphoria and depression, and sleep disturbance that includes vivid dreams and nightmares.

They occur in nearly everyone who first uses efavirenz, but usually get easier after a few days or weeks. About 10-20% of people stop efavirenz because of the general effect on their quality of life.

Only 3% of people stop efavirenz because of more severe psychiatric symptoms. They usually can occur very early after starting treatment.

Before starting efavirenz, your doctor should give you specific information about these side effects. Efavirenz is not recommended during pregnancy or for women trying for a baby

However, complications are very rare and if you become pregnant on efavirenz do not panic. It is easy to change treatment or even continue if this is recommended by your doctor.

Starting on nevirapine

Nevirapine is only recommended as an 'alternative' NNRTI in the UK. It is used less because of a small risk of very serious side effects.

Nevirapine has some side effects that are similar to efavirenz. This includes risk of serious rash and liver toxicity (that can both be fatal), but not sleep or mood disturbance.

The risk with nevirapine was found to be linked to starting treatment with a higher CD4 count (over 250 for women, and over 400 cells/mm^3 for men). Whether the risk is reduced by observing these upper CD4 cut-offs is the subject of ongoing research.

A serious skin reaction called Stevens-Johnson Syndrome (SJS) has been reported in 0.3% of people starting nevirapine compared to 0.1% in people starting efavirenz.

You need to start nevirapine at 200mg once-daily for the first two weeks, and then, only if you do not have a rash, increase the dose to 200mg twice-daily. Any rash should be promptly shown to your doctor.

Nevirapine is not routinely recommended in people with hepatitis C and HIV, because it may increase liver disease.

The reactions with nevirapine usually only occur in the first two months. Over this time, you should be monitored more carefully. Otherwise, nevirapine is reported as an easy drug to tolerate.

‘Seeing people get better on combination therapy is without a doubt the most extraordinary thing I have ever seen. It made me become an activist.’

Polly, London

‘My first reaction was to put off starting therapy for as long as possible. I tried to improve my immune system by stopping smoking and using supplements, until I realised that my best bet was to use ARVs. They are the only way to ensure my long-term survival.

After 8 months of resisting treatment I eventually started ARVs. I do not say that I gave in but that I became more clever!’

Vladimir, St Petersburg

‘No-one wants to take drugs every day and I certainly didn’t. I put it off til the last possible moment. Looking back I wish I had started sooner.

I still wonder whether the three years I spent waiting for my CD4 count to fall to 200 would have been happier and more active ones if I had started treatment when my doctor recommended, when my CD4 count was 300.’

Matt, Brighton

Starting on a boosted PI

Although UK guidelines recommend starting with an NNRTI-based combination, PI-based combinations can be just as good at getting your viral load to undetectable.

PI regimens can be less vulnerable to resistance if you have problems with adherence.

Some people start on a PI regimen and then switch to an NNRTI regimen that requires fewer pills later.

UK guidelines only recommend ritonavir-boosted PIs (written PI/r where the 'r' stands for ritonavir). Apart from Kaletra, which has ritonavir included in the formulation, other boosted PIs need ritonavir to be dosed as a separate pill.

Using a small dose of ritonavir in these combinations provides better drug levels.

This reduces the risk of resistance. It also reduces the number of pills and dietary requirements compared to unboosted PIs.

However, some people find even small doses of ritonavir cause nausea and diarrhoea.

People who can not tolerate ritonavir side effects, can sometimes use an unboosted PI (usually atazanavir), but they need to confirm drug levels using therapeutic drug monitoring (TDM).

Lopinavir/r (Kaletra) is a widely used PI. It is approved as a twice-daily drug. The main side effects include lipid changes, nausea and diarrhoea.

Atazanavir/r is a once-daily PI. Atazanavir/r is often recommended if you want to switch drugs because of side effects from efavirenz. The daily dose is 300mg, boosted by 100mg of ritonavir.

If this dose causes side-effects, the ritonavir can sometimes be stopped and a slightly higher atazanavir dose (400mg) used instead.

Unboosted atazanavir can be taken as 200mg twice-daily, but you would need to have your drug levels measured.

Unboosted atazanavir should not be used in combination with tenofovir.

Darunavir/r is a mainly used as a twice-daily PI in second-line therapy. Once-daily dosing (800/100mg) is approved in Europe as a first-line treatment in people starting their first treatment.

Future UK guidelines may recommend both darunavir/r and atazanavir/r for first-line treatment, based on recent studies.

Saquinavir/r and fosamprenavir/r are alternative options that are prescribed less frequently.

Tipranavir/r is a PI that is only used by people with PI-resistance.

Nelfinavir is rarely used now because it is less effective than recent drugs. It remains an option if someone cannot tolerate ritonavir.

Which nukes: Truvada vs Kivexa?

Both Truvada and Kivexa are once-daily tablets that combine two nukes in one pill. They each have benefits and disadvantages.

Truvada = tenofovir + FTC

Kivexa = abacavir + 3TC

Neither tenofovir nor abacavir are linked to lipoatrophy, neuropathy or anaemia.

3TC and FTC are very similar drugs. They are interchangeable if individual nukes are prescribed separately rather than as a combined pill.

Tenofovir is cleared from your body by the kidneys. Monitoring for kidney toxicity and not using tenofovir with other drugs that are cleared the same way are important safety cautions.

Tenofovir can cause a small reduction in bone mineral density during the first 6 months but does not seem to increase any risk of bone disease with longer use.

Abacavir is not recommended in people with a high risk of heart disease because some studies have shown that it increased this risk. It is also not recommended when viral load is above 100,000 copies/mL.

The other main side effect linked to abacavir is a hypersensitivity reaction.

However, a genetic test, called HLA B*5701, is now used in the UK that reduces this risk. A negative result does not guarantee that you will not get this reaction but makes it much less likely.

Hypersensitivity symptoms include fever, rash, headache, sore throat, diarrhoea, abdominal pain, tiredness, nausea, vomiting, flu-like aches etc that get progressively worse each day.

Anyone who gets these symptoms must seek urgent medical advice with a view to stopping the abacavir.

Once stopped, abacavir must not be used by that person again – a worse reaction can return that is potentially fatal.

AZT and Combivir

AZT is a twice-daily nuke that has been widely prescribed and studied, but is now used less often in first-line treatment.

It used to be widely used during pregnancy. However. this is now thought less important as there are other drugs.

Combivir is a fixed-dose combination of AZT and 3TC that is taken twice-daily.

The disadvantages of AZT are the side effects of anaemia, fatigue and lipoatrophy (fat loss). Lipoatrophy does not usually occur during the first six months of AZT treatment.

ddI

ddI is rarely used as a first-line choice, because is less effective and less convenient. It needs to be taken on an empty stomach (ie two hours after food). ddI is mainly used in people with drug resistance.

Triple-nuke combinations

Triple-nuke combinations are not recommended as first-line treatment as they are less effective.

The main reason to use a triple-nuke combination is to reduce side effects related to PIs or NNRTIs or if there are interactions between these drugs and other medications (ie for TB).

Nukes that don't mix

Although one nuke can often be switched for another, the table below shows some combinations that should never be used.

Table 1: Nukes that don't mix

AZT and d4T	At any time
3TC and FTC	At any time
ddI and tenofovir	Especially with an NNRTI
abacavir and tenofovir	In a 3-drug combo until an interaction is explained
d4T and ddI	Never during pregnancy
Triple-nuke combinations	Only two combinations: AZT+3TC+abacavir or AZT+3TC+tenofovir, can be used. Others have a high risk of failure.

Non-standard approaches

There are other approaches than using two nukes plus either an NNRTI or boosted PI, but these have not been studied as much.

Some studies have not used nukes at all. These include a single boosted-PI, or a boosted-PI plus either an NNRTI or integrase inhibitor.

Although guidelines only recommend a few combinations, treatment is individual. Less commonly used combination will be important for some people.

New options in 2010/11

Treatment options for first-line treatment are unlikely to change much over the next year.

The most recently approved drugs include a integrase inhibitor (raltegravir) and a CCR5 inhibitor (maraviroc). However they are rarely used in first-line treatment.

Raltegravir with two nukes is approved for first-line treatment but tends to be saved for second-line treatment. Maraviroc is not approved for first-line treatment in Europe.

As these drugs are more expensive than current recommended treatment, this also limits their use.

A detailed overview of new antiretrovirals for adults and children is posted to the i-Base website. See page 44 for further information and a link.

‘Having lived with HIV since July 1996, it never dawned on me that I had never come to terms with my diagnosis. For all those years I was in survival mode and I had survived.

I always advocated for treatment and have been on treatment, including through two pregnancies, though I never had symptoms and never had a CD4 count less than 460. So when for the first time I had persisent painful lumps in my neck, you can guess what happened!

I realised that, yes, the HIV test in 1996 was not wrong and yes, after 13 years of claiming to be HIV-positive, I actually am HIV-positive!

I kept saying to myself “It is true, I am HIV-positive!” How do you come to terms with something you have known and lived with for so long?

The mind is very complex. I think the child in me had wished this nasty thing away for so long - acknowledging yet not acknowledging.’

Faith, Luton

The most commonly used first-line combinations

Drug name and comments	Side effects	Other notes
Efavirenz (Sustiva/Stocrin) Efavirenz is recommended as part of a first-line therapy. It is one pill, once-daily. Side effects, which can be significant, usually reduce after the first few weeks.	Side effects are sleep disturbance (including nightmares), mood changes (including anxiety and depression), rash, liver toxicity and lipid changes. About 20% of people switch to another drug.	Efavirenz should not be used during pregnancy or by women trying to have a baby.
Nevirapine (Viramune) Nevirapine is an alternative to efavirenz but has a slightly higher risk of serious side effects. Nevirapine is started at one tablet a day for the first two weeks, and then one tablet twice-daily.	Main side effects are rash and liver toxicity. These occur in the first 6-8 weeks. Any low level rash should be taken seriously. Serious rash can be fatal. If you still have a rash after the first two weeks do not increase the nevirapinr dose. Your doctor needs to see any rash.	Women with a CD4 count over 250 and men with a count over 400 should not start with nevirapine.
Lopinavir/r (Kaletra) Kaletra is widely used as a first-line protease inhibitor. It is a twice-daily drug that includes ritonavir inside the same pill.	Main side effects are changes in lipids (blood fat) which should be routinely monitored, lipodystrophy (fat accumulation) and diarrhoea.	Kaletra includes lopinavir and ritonavir in the same pill.
Atazanavir/r (Reyataz) Atazanavir/r is now widely as first-line treatment, because it is dosed once-daily and generally easy to tolerate.	Main side effects are yellowing eyes or skin in 10% of patients. This is not a problem unles total bilirubin levels increase to 60-70 mmol/L. Lipids can increase due to the use of ritonavir.	Taken with a separate dose of ritonavir (/r), unless you have high drug levels.
Darunavir/r (Prezista) Approved as a once-daily first-line PI for naive patients.	When compared to Kaletra, darunavir had lower rates of nausea, diarrhoea and lipid changes.	Taken with a separate dose of ritonavir (/r).
Fosamprenavir/r (Telzir) In studies fosamprenavir/r had similar results to Kaletra, but is less commonly used.	Side effects, including diarrhoea and lipids are similar to Kaletra.	Taken with a separate dose of ritonavir (/r).
Saquinavir/r (Invirase) Saquinavir/r has shown similar results to Kaletra but it is much less commonly used.	Side effects, including diarrhoea and lipds are similar to Kaletra. May have a lesser effect on trigliceride levels.	Taken with a separate dose of ritonavir (/r).

Your personal treatment history

The next few pages include space to record important information about your own treatment and treatment history.

These have been taken from the i-Base Treatment Passport which is available free from i-Base.

If you'd like a copy of the more detailed booklet please call 020 7407 8488 or go online:

www.i-Base.info

Why keep a treatment history?

Keeping a short record of your treatment history can help in many ways:

- it can help you understand your health and treatment
- it can help if your doctor changes at your clinic
- it can help if you speak to other healthcare workers or to a treatment phoneline for advice
- it can help if you ever change hospitals or clinics, if you want a second opinion, when on holiday or abroad or if you move to another country.

Any treatment choice for your future care is closely linked to your previous treatment history.

This includes results from blood tests like the CD4 count, viral load and resistance tests, as well as the history of drugs you have used and your reasons for changing them. As treatment improves you could need this record for 20 years or more - and whether new treatments work may depend on previous treatment.

This record is important. If you change clinic you should ask for your medical records to be forwarded. Because this does not always happen or is delayed, make sure that you have a record of your GUM or clinic number.

These pages will help provide a useful record in all these situations.

Your doctor can provide you with details to help fill in these pages but it does not replace your medical notes. All patients have the right to see their medical records and to make photocopies from them.

If you are changing clinics it is sometimes easier to take a summary copy of your notes with you.

CD4 and viral load results

These blood tests are used to monitor your health and your response to treatment.

CD4 count This blood test checks your immune system

CD4% This is similar to the CD4 count but is often more stable

Viral load This test measures the amount of HIV in a sample of blood.

It is used to decide when you need to start treatment, and whether the treatment is working effectively.

Even rough figures are useful from your previous history and your doctor can provide you with these.

The lowest CD4 count and highest viral load results when you were first diagnosed and before you started treatment are the most important.

	Date (month/year)	CD4 (cells/mm3)	CD4%	Viral load
e.g.	July 2006	234	14	180,000

Date (month/year)	CD4 (cells/mm3)	CD4%	Viral load

Antiretroviral treatment history

Your choice of new and future drugs will depend on the drugs you have used in the past and the reason you stopped using them. It is important to know whether this was because of resistance or side effects.

If you can't remember exact details, even rough dates are useful (ie taking AZT for 6 months in 1992 etc).

A list of drug names is included on the centre page pull out section.

	Drugs & combination details (name & dose)	Date started	Date stopped	Reason
e.g.	Kaletra	Feb 07	Jan 09	High cholesterol

Other infections and illnesses

A record of other infections (eg TB) or HIV-related illnesses (PCP, shingles, etc) is also important.

Illness or infection	Treatment & dose	Dates

Side effect and allergies

Main side effects or drug-related allergies

Side effect or symptom	Suspected drug	Date started/stopped

‘I was confused about how my clinic worked, even when I was on treatment. One day I asked the nurse to explain the tests and what a ‘good’ or ‘bad’ result might mean.

It was tremendously helpful. I used to be happy with doctors saying ‘everything’s okay’ but now I want to know details about a few key things - my cholesterol, my bone health, my liver and kidneys.’

Matt, Brighton

‘I was very scared of treatment. I did not think it worked cause I had just arrived from Zimbabwe.

I came to the UK after my husband died and I needed treatment immediately. I told my doctor that I did not want to be on d4T and ddI and he just laughed because these drugs were no longer in use in this country. It is amazing what the disparity of wealth does to countries.

I never used to read about the meds I was given but after my experience with efavirenz (which I changed) I now read every detail on every drug.

Now I tell everyone that the drugs are fantastic because they have given me a new lease of life.’

Hosanna, UK

Immunisation record

Keeping history of vaccination and immunisation (hepatitis A and B, pneumovax, flu, tetanus and holiday vaccinations, etc) can also help. Note that HIV-positive people usually require 'non-live' vaccinations and that you may have to ask for these specially.

Date	Vaccination

Date	Vaccination

Trials and studies

Study name and treatment received	Dates

Resistance tests

Date	Results (continue summary on notes pages if necessary)

Glossary

Adherence
The term to describe taking medication exactly as it is prescribed – taking it at the right time and following any diet advice

Antibody
A protein that is part of the immune system and which is produced to fight an infection.

Antigen
A protein found on the surface of a virus or bacteria. It is recognised by the immune system which then generates antibodies.

Antiretroviral (ARV)
An HIV drug (HIV is a retrovirus).

CD4 cells
A type of white blood cell that helps your body fight infections.

First-line therapy
The first combination of HIV drugs that you use.

HAART
A term for combination therapy (Highly Active Anti-Retroviral Therapy).

Mutation
A change in the structure of the virus that can stop a drug from working.

Opportunistic infection (OI)
An infection that occurs after your immune system has been damaged by HIV.

Seroconversion
The time after HIV infection (usually a few weeks) when your body generates an immune response to HIV.

Side effects
Secondary effect of a drug other than the reason it is prescribed. Side effects are usually related to negative effects.

Therapeutic drug monitoring (TDM)
A test to measure the levels of drug in your blood

Thymus
An organ that is part of your immune system where new T-cells are made.

Toxicity
The term for the degree to which a substance harms a person

Treatment-experienced
Someone who has previously used anti-HIV treatments.

Treatment-naive
Someone who has never taken any anti-HIV treatments before (people who are treatment naive can still be resistant to anti-HIV drugs if they were infected with a drug resistant strain of HIV).

Triglycerides
A type of body fat.

Viral load test
A test to measure the amount of HIV in blood but which can also check levels in other compartments like genital fluid, semen or spinal fluid. Tests can only measure down to certain levels (ie 50 copies/mL).

Viral rebound
When taking treatment and your viral load increases above detectable levels.

Wild-type virus
HIV that has not developed any mutations. This is usually, but not always, the virus that you are first infected with.

Further information

If you have questions after reading this guide or would like to talk to someone about treatment, contact the i-Base information service.

HIV i-Base

The i-Base wesite has other treatment guides including translations, technical bulletins, an online Q&A service, a treatment manual, information about workshops and many other resources.

It also contains conference reported and technical reviews of published studies.

www.i-Base.info

UK-CAB

A community network that focusses on treatment including peer-support and training.

www.ukcab.net

Community treatment information

The following community sites, most of which are based in the US, have information on individual HIV drugs, factshets, more detailed referenced research, conference reports and treatment news.

www.aidsinfonet.org
www.aidsmeds.com
www.tpan.com
www.aidsmap.com
www.natap.org

Pipeline drugs

This year i-Base have worked with Treatment Action Group (New York) to produce their pipeline report.

This includes a detailed review of drugs in development and strategies for HIV, hepatitis and TB.

www.i-base.info/home/pipeline-report-2010/

HIV and ageing

A guide to HIV and ageing is available from HIVTRI.

www.hivtri.com

Drug regulation

Detailed prescribing information in most European languages and other scientific documents are available from the European Medicines Agency (EMA). This the European organisation responsible for drug approval and drug safety.

Use the link on their site for 'product information/human medicine':

www.ema.europa.eu

Patient rights in the UK

For information about your rights as a patient, see **'Your Guide to the NHS'** available by phoning 0800 555777 or online:

nnuh.nhs.uk/docs%5Cleaflets%5C36.pdf

Information about healthcare services including how to make a complaint are on the 'About the NHS' link on the NHS homepage:

www.nhs.uk

‘Part of the reason I started combination therapy was hearing the experiences of other people living with HIV and seeing how well they looked. I have been on HIV treatment ever since, without a break.

The biggest challenge for me to being adherent is the travel involved in work and for holidays.

Once or twice I have mistakenly taken my efavirenz during the day instead of at night. I have barely been able to function because of the side effects.

I now facilitate treatment workshops with African people in the UK. People want to know more about their treatments and want to learn. One person came up to me and said that they always tried to adhere to HIV treatment but didn’t know why they had to.

Learning the reasons why they need to be adherent was an eye opener for them and they were then able to confidently tell others the same things.’

Winnie, London

Notes

i-base
0808 800 6013

i-Base publications

All i-Base publications are available free
Treatment guides are written in everyday language
HTB is written in more technical medical language

Please photocopy or cut out this form and post to
HIV i-Base
4th Floor, 57 Great Suffolk Street
London, SE1 0BB
or fax to 020 7407 8489

Please send me

Guide to hepatitis C for people living with HIV ..... ☐
Changing treatment: Guide to Second-line Therapy ..... ☐
Pregnancy and Womens Health ..... ☐
Guide to Avoiding and Managing Side Effects ..... ☐
HIV Treatment Bulletin (HTB) ..... ☐

Name .....
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.....
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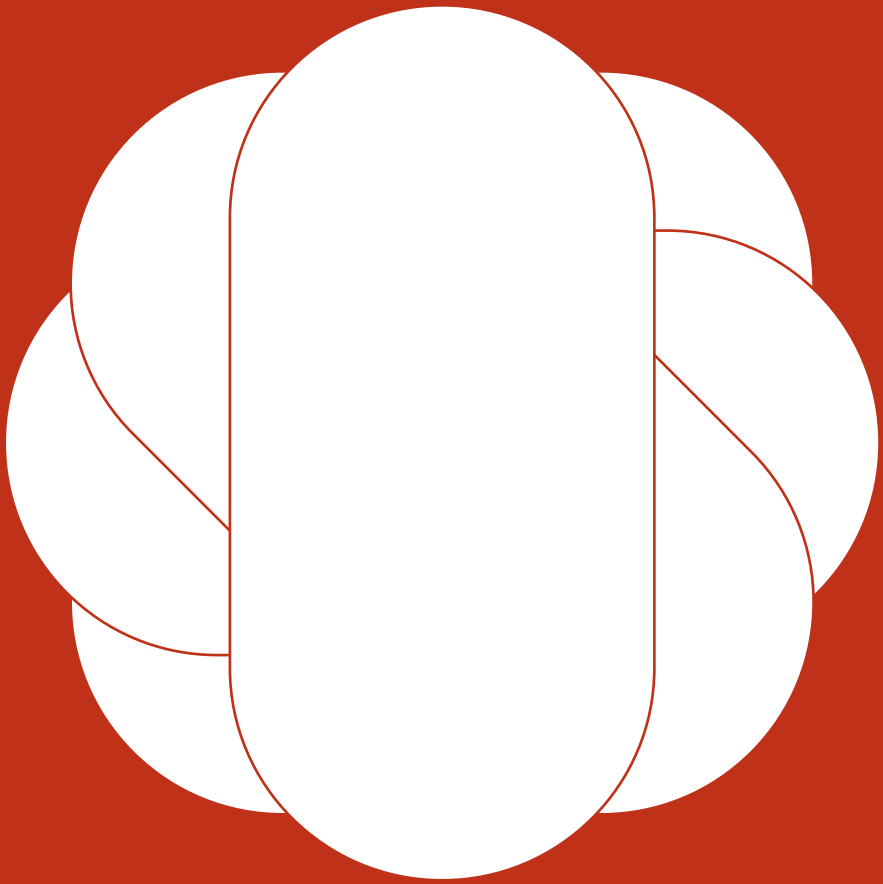
Call us on
0808 800 6013

i-Base Treatment Information Phoneline

Monday to Wednesday
12 noon to 4pm



i-Base can also answer your questions by email or online

questions@i-Base.org.uk
www.i-Base.info/questions