What's your problem?

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Doctor Louise answers readers' questions.

Preventing resistance

James from Newcastle, NSW writes: Is it true that after a number of years most people develop resistance to HIV treatments? I have just started taking antiretrovirals [1]A medication or other substance which is active against retroviruses such as HIV. and wonder what I can do to stop my virus becoming resistant [2]HIV which has mutated and is less susceptible to the effects of one or more anti-HIV drugs is said to be resistant..

Dr Louise replies: Thank you, James. Firstly, let me just recap what 'resistance' means.

HIV is capable of replicating at great rates and sometimes the replicated virus is not exactly the same as the parent virus. These changes may be insignificant or they may affect the characteristics of that virus. Sometimes they can even make the virus resistant to some antiretrovirals so that even in the presence of the medication, the virus is able to continue to replicate. This is more likely to happen when you don't take your antiretrovirals correctly or miss doses.

We know that adherence to medication is one of the most important determinants of treatment outcomes. High levels of adherence suppress HIV replication and lessen the probability of drug- resistant mutations evolving. Resistance can occur when there is inconsistent exposure of the virus to the drug. The drugs will have some effect on the virus, but not enough to completely inhibit viral replication. This can then lead to the development of resistance and less susceptibility to the drugs.

Current treatment regimens usually include at least three drugs from two different classes. This way we can maximise the chance of totally suppressing viral reproduction as well as help CD4 cell recovery and function.

These days we are able to test someone's virus for any drug resistance before they start treatment so we can tailor the regimen to suit the person and the virus. In some cases, people may have a drug- resistant virus without ever having been exposed to HIV treatment. This is called 'transmitted resistance'.

Once people commence treatment, we monitor their CD4 count recovery and their viral load [3]A measurement of the quantity of HIV RNA in the blood. Viral load blood test results are expressed as the number of copies (of HIV) per milliliter of blood plasma.. If these improvements are not as good as we hoped, then we look at factors that could be contributing to that.

Adherence is something that your doctor is likely to ask you about quite often. Before starting meds it is good to discuss strategies that may help you to take your pills on time all the time. Pharmacists, nurses and support workers can also offer advice. Some people load up a dosette box for the week or have alarms on their mobile phones and keep a spare dose stored away just in case.

In the past, people took 'drug holidays' – stopping medications for weeks, months or even years. We now know this can have serious ramifications and is not recommended.

If you are having trouble with your regimen, get back to your doctor and talk about it. If it is related to side-effects, your doctor may have a simple answer or may recommend a change of regimen.

Hepatitis vaccination

Joshua from Seymour, Victoria writes: I was recently diagnosed with HIV and in the routine workup my doctor mentioned that I should have a Hepatitis B vaccine. Is this really necessary and what does it entail?

Dr Louise replies: Hi Joshua, thanks for your query.

We like to do lots of tests early on when we meet someone new with HIV to see where we can maximise your health and put in place any protective measures. This may also include things such as discussing general health matters – smoking, exercise, alcohol, family history – and doing blood tests such as blood sugar, cholesterol [4]An essential component of cell membranes and nerve fibre insulation, cholesterol is important for the metabolism and transport of fatty acids and the production of hormones and Vitamin D. Cholesterol is manufactured by the liver, and is also present in certain foods. High blood cholesterol levels have been linked to heart disease and may be a side effect of some anti-HIV medications. and a hepatitis screen.

Hepatitis A, B and C are viruses [5]A small infective organism which is incapable of reproducing outside a host cell.

Hepatitis B is transmitted through mucous membrane contact (including sexual contact), blood-to-blood contact and can be transmitted from mother to child. In adults, transmission is predominantly via sexual contact and injecting drug use. It is estimated that over 300 million people world-wide are chronically infected with the hepatitis B virus. Asia and Africa have high rates of hep B in their populations.

Hepatitis B is preventable with vaccination. Routine vaccination is offered to babies and is available to adults. It involves an initial vaccination followed by two further doses at one and six months. For maximum effect all 3 doses are required. In some cases a booster dose may be required.

Vaccination is safe for people with HIV and is recommended. The vaccine is usually very well tolerated, the most common side-effect may be some temporary redness at the site of the injection (usually the upper arm). In the months following immunisation, your doctor will check the antibody response to determine if a booster is required.

Vaccination is available at doctors' clinics and sexual health centres.

Hepatitis A is also preventable with a vaccination and in some cases people may have a combination hep A and B vaccination in the one injection. This is also important protection for people travelling.

So, I think it is a great idea to get the vaccination done and it is great to be able to protect you from a potentially chronic condition.

Dr Louise Owen is Clinical [7]Pertaining to or founded on observation and treatment of participants, as distinguished from theoretical or basic science. Director of the Centre Clinic in St Kilda. Her advice is not meant to replace or refute any advice given by your own doctor as your individual medical circumstances are best dealt with by your own practitioner.

- adherance
- drug resistance
- hepatitis A
- hepatitis B

Links:
[1] http://www.napwa.org.au/glossary/term/122
[2] http://www.napwa.org.au/glossary/term/109
[3] http://www.napwa.org.au/glossary/term/416
[4] http://www.napwa.org.au/glossary/term/88
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[6] http://www.napwa.org.au/glossary/term/102
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