2

Can you avoid HIV drug resistance?

There is not one type of HIV about but rather a large population of mixed viruses, some of which are drug-resistant.

From the moment HIV enters your body it starts to multiply. And while it multiplies it sometimes produces a mutation of itself. Often these mutations cannot reproduce very well and die off. But some HIV mutations are strong and reproduce very well.

This means is that there is not one type of HIV about but rather a large population of mixed viruses, some of which are drug-resistant.

Fortunately, HIV treatment prevents HIV from multiplying and when taken correctly will protect you from developing drug resistance.

HIV drug resistance occurs when the drug levels in your bloodstream are not high enough. This can happen when you miss doses or take less of the dose you are prescribed.

Adherence is the best way to avoid drug resistance. This means taking HIV treatment every day, exactly as prescribed. Some people use a seven-day pill box or pill diary to stay on track. Others use timers on their phones, or apps like **MyLife+** Some people put their pills close to an established daily ritual like the toothbrush or electric jug.

Drug resistance can also happen if the drug is not absorbed or metabolised properly. Certain HIV treatments have dietary requirements, which can affect absorption. People with HIV can also experience diarrhoea and vomiting, which can cause HIV drugs to be expelled from the gut too quickly and affect absorption.

Interactions between drugs can also be a major problem in how your treatment is absorbed, distributed, broken down, and removed from the body. For example, if the NRTI Viread (tenofovir) is combined with the protease inhibitor Reyataz (atazanavir), blood levels of Reyataz can fall to dangerously low levels. This is why the protease inhibitor Norvir, which boosts Reyataz levels in the bloodstream, must be used if Viread is also prescribed.

There are many drug interactions like this. Be sure that your doctor knows all of the medications you are taking, including prescription drugs, over-the-counter remedies and nutritional supplements.

Drug-resistant HIV can also be passed from person to person. This is why people are usually tested for drug resistance before they commence treatment.

Drug-resistance testing is done to identify which, if any, HIV medicines won't be effective against the strain of HIV you have.

HIV medicines are grouped into drug classes according to how they fight HIV. Cross resistance is when resistance to one HIV drug causes resistance to other drugs in the same class, thus limiting your choice of treatment options

There are a number of reasons why someone might struggle with treatment adherence, including side effects, a hectic schedule, alcohol and/or other drug use or plain forgetfulness.

If you've been having difficulty adhering to your drug regimen, be sure to tell your doctor so that you can up with solutions, which might include changing your treatment.

Genotypic resistance testing

Genotype tests look at the specific genetic sequence within the viral DNA to assess whether there has been any change in structure compared to a 'wild type' virus (a viral sample with no genetic mutations or drug resistance). This type of test will detect specific mutations within the genetic structure of the virus.

Phenotypic resistance testing

Phenotype tests look at the impact of mutations on resistance in practice. They test the dose of antiretroviral drugs needed for viral replication to stop (testing each drug separately). These tests are generally conducted on treatment- experienced patients who have failed a drug regime

For more detail about recreational drug use please see **'treatment message 3. Are you heading for a HIV treatment clash?'**