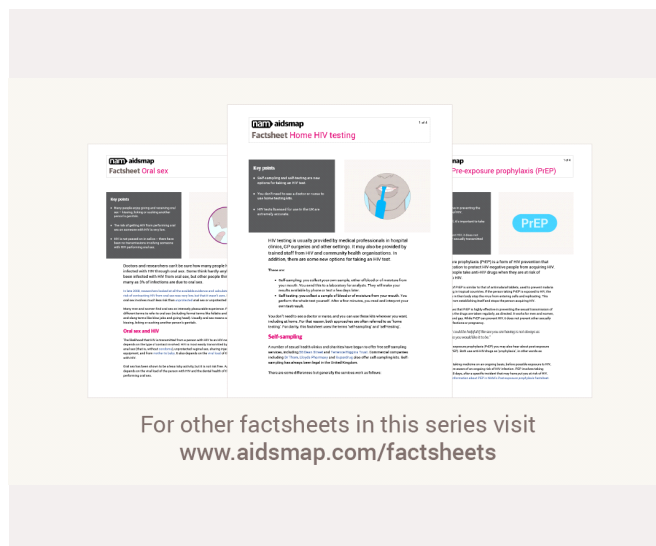


Factsheet Cancer and HIV

Key points

- Rates of some, but not all, cancers are higher in people living with HIV than other people.
- For many cancers, treatment works just as well for people living with HIV who are taking effective HIV treatment as HIV-negative people.
- Stopping smoking and other lifestyle changes lower your risk of developing cancer.



Cancers are diseases of cells in the body. In all types of cancer, some of the body's cells begin to divide without stopping and spread into surrounding tissues.

Some cancers form solid lumps called tumours that grow in size. Other cancers start in the blood (including leukaemia) or the immune system (including lymphomas).

Cancer cells can spread to other parts of the body. For example, cancer cells in the lung can travel to the bones and grow there. This is known as metastasis.

There are more than 200 different types of cancer, and each is diagnosed and treated in a particular way. You have the best chance of a good outcome if you have the problem diagnosed and treated promptly, without delay.

Your lifestyle and cancer

Changes to your lifestyle can reduce your risk of developing cancer.

Don't smoke. A quarter of cancers in people living with HIV are linked to smoking. As well as lung cancer, these include cancers of the mouth, throat, bladder, kidney, pancreas, bowel, anus, stomach and cervix. Stopping smoking lowers the risk of cancer developing.

Limit your intake of alcohol. Alcohol increases the risk of cancers of the mouth, throat, breast, liver and bowel.

Eat a healthy, balanced diet. Some foods, such as red meat and processed meat (such as ham, bacon and sausages), can increase the risk of developing bowel cancer. Fruits and

vegetables can lower the risk of bowel, mouth, throat and lung cancers.

Lose weight if you're overweight. Being overweight increases the risk of several cancers, including cancers of the pancreas, bowel, breast, womb and kidney.

Exercise regularly. Physical activity can reduce the risk of developing bowel, breast and womb cancer.

Protect your skin from the sun. Too much ultraviolet (UV) radiation from the sun or sunbeds is the main cause of skin cancer. Use suncream and cover up with clothing. Don't use sunbeds or sunlamps.

There are also some medical interventions which will reduce your risk of cancer:

Take HIV treatment and keep your viral load undetectable.

Get vaccinated. The British HIV Association recommends that all people with HIV are vaccinated against hepatitis B (which can cause liver cancer). They also recommend vaccination against the human *papillomavirus* (HPV, which can cause anal, cervical, throat and several other cancers) for gay men and women with HIV up to the age of 40, and for heterosexual men with HIV up to the age of 26.

Attend screening. Women with HIV are recommended to have cervical cancer screening every year (more often than other women). Recommendations for breast cancer screening (for women aged 50 to 70) and bowel cancer screening (for everyone aged 60 to 74) are the same as in the general population. Doctors disagree about whether it's a good idea to be screened for anal cancer or prostate cancer if you don't have symptoms.

Who is at risk?

It is not usually possible to know exactly why one person develops cancer and another doesn't. Our genes, our lifestyle, and the environment around us may increase or decrease our risk of getting cancer.

Cancer in people living with HIV

A normally functioning immune system acts to suppress the abnormal growth of cells that characterises cancer. HIV infection and damage to the immune system can disrupt the ability of the body to keep infections under control and to stop some cancers from growing.

"Taking effective HIV treatment and increasing your CD4 count significantly lower your risk of developing cancer."

Taking effective HIV treatment and increasing your CD4 count significantly lower your risk of developing cancer. Nonetheless rates of some cancers remain higher in people with HIV than other people. Even when people take HIV treatment, there are subtle changes to the immune system which seem to affect control of cancers.

Another factor explaining cancer in people with HIV is age. HIV treatment has increased the lifespan of people living with HIV, which gives cancer more time to develop. In people with HIV, as in other people, the risk of having a cancer progressively increases as you get older (particularly, over the age of 50).

While rates of cancer are high in people with HIV, this needs to be put into perspective. [One study](#) which tracked almost half a million Americans living with HIV found that if you took a group of 1000 people with HIV and followed them for 10 years, around 70 of them would develop cancer during that time.

In terms of absolute numbers, the cancers which most commonly affect people living with HIV in Western countries include non-Hodgkin lymphoma, Kaposi's sarcoma, lung cancer, anal cancer, liver cancer and prostate cancer.

People with HIV are more likely to get some cancers than people who don't have HIV. This is the case for a number of cancers which can be caused by viral infections. These include lymphomas (which can be caused by Epstein-Barr virus), Kaposi's sarcoma (human herpes virus 8), liver cancer (hepatitis B virus and hepatitis C virus), cervical cancer (human *papillomavirus*, HPV) and anal cancer (also human *papillomavirus*, HPV). HIV's impact on the immune system and high rates of viral infections in people with HIV contribute to these elevated rates of cancer.

Rates of lung cancer are also high in people with HIV. This is mostly because rates of smoking are very high amongst people with HIV, compared to the general population.

It also appears that a weakened immune system may make lung cancer more likely to develop in HIV-positive smokers than in HIV-negative smokers.

But having HIV doesn't make you more susceptible to all cancers. Rates of other types of cancer are the same (or lower) in people with HIV than in the general population. So while prostate and breast cancer do affect large numbers of people with HIV, this is simply because they are very common cancers across the population.

And people with HIV may be affected by many other cancers, including rare cancers, just like other people. In fact, around half the cases of cancer in people with HIV are cancers other than the ones mentioned above.

Symptoms

The symptoms of cancer depend on the type of cancer, where the cancer is, how big it is, and

its impact on other parts of your body. Unfortunately, sometimes a cancer starts in a part of the body where it won't cause any signs or symptoms until it has grown quite large.

Changes to your body's normal processes or unusual, unexplained symptoms can sometimes be an early sign of cancer. If you notice a change which isn't normal for you, especially if it persists for a few weeks, you should have it checked by a doctor. These could include:

- a lump or swelling
- unexplained bleeding
- unexplained weight loss
- unexplained fever
- unexplained night sweats
- unexplained pain
- changes to your bowel habits
- a sore that doesn't heal.

These symptoms are more likely to be caused by something far less serious than cancer, but could be a sign of the disease. You can read more about the [signs and symptoms of cancers on the Macmillan website](#).

Diagnosis and monitoring

Different types of cancers are diagnosed and monitored in different ways. These include:

- **Scans and imaging procedures** that create pictures of areas inside your body. Some of the techniques used include X-ray, CT scan, PET scan, MRI scan, ultrasound and mammogram.
- **Endoscopy:** a thin tube with a camera at the end is used to look inside part of the body. It may be inserted through a natural opening like the mouth or the anus, or through a small cut in the skin. Specific names for different types of endoscopy include bronchoscopy, colonoscopy, anoscopy, laparoscopy and cystoscopy.
- **Biopsy:** a small piece of tissue or a sample of cells is removed and examined under a microscope. The sample may be removed with a thin needle, during an endoscopy, or during surgery.

In making a diagnosis and monitoring response to treatment, blood tests and tests on other body fluids also provide vital information. Their results will be looked at alongside those of the tests mentioned above.

There are some other tests which cannot detect cancer itself, but can identify problems which require further investigation and tests. These tests include the cervical smear test, anal smear test, faecal occult blood test (for bowel cancer screening) and prostate-specific antigen test (used in relation to prostate cancer).

Treatment and management

There are many types of cancer treatment. The types of treatment you need will depend on the

type of cancer you have and how advanced it is. Most people have a combination of treatments, for example chemotherapy and surgery, or chemotherapy and radiotherapy.

Surgery: an operation to remove tissue from the body. Surgery is most often used for solid tumours that are contained in one area (rather than cancers that have spread). It is not used for blood cancers.

Radiotherapy: using radiation to destroy cancer cells. Most often, it is given externally with a large machine that aims beams of radiation to a specific part of the body. Less frequently, radiotherapy is given internally (having a solid or liquid source of radiation put inside the body).

Chemotherapy: drugs which destroy cancer cells. They work by stopping cells from dividing which stops them from growing and spreading. Chemotherapy drugs are carried in the blood to almost all parts of the body.

Hormone therapy: drugs which block or lower the amount of hormones in the body. This can stop or slow down the growth of some cancers.

Targeted (biological) therapy: drugs which are designed to precisely identify and attack cancer cells. There are many different types of biological therapy, including gene therapy and monoclonal antibodies.

Immunotherapy: drugs which help the immune system to attack cancer cells.

Chemotherapy and the other drug treatments mentioned above are given in different ways. Many are given through a drip into a vein, while other drugs are taken as tablets, with a pump that you are connected to at home, or as an injection.

Like any other treatment, cancer treatments can have side-effects. While these can sometimes be unpleasant, each treatment has different side-effects. It's important to ask about the potential side-effects of the specific treatment that is suggested for you. For example, not all chemotherapy drugs make your hair fall out. Some newer treatments (such as hormone therapies and targeted therapies) may have fewer side-effects than older treatments. You may be given additional medications to counteract side-effects.

The same types of treatment are used in people with HIV. For many cancers, people with HIV who are taking effective HIV treatment have similar treatment outcomes as HIV-negative people. For some types of cancer, people with HIV have poorer outcomes than other people. In particular, people with low CD4 counts or other co-morbidities may have more treatment side-effects and poorer outcomes.

It may be necessary to make some adjustments to your cancer treatment or your HIV treatment, taking into account the impact of each disease on the other, and the potential for drug-drug interactions. For this reason, it's very important that the doctors treating your HIV and your cancer work together.

The British HIV Association (BHIVA) recommends that people with cancer and HIV should be

treated at hospitals with a lot of experience of treating cancer in people with HIV. You have the best chance of a good outcome if you go to a hospital with this experience.

The British HIV Association also recommends that all people with HIV who need cancer treatment should start HIV treatment, if they have not done so already. Continuing to take HIV treatment during cancer treatment is associated with living longer and a lower risk of opportunistic infections.

There can be drug-drug interactions between chemotherapy and HIV treatments (including protease inhibitors, cobicistat and non-nucleoside reverse transcriptase inhibitors). The integrase inhibitors raltegravir and dolutegravir are less likely to have interactions than some other anti-HIV drugs, so your doctor may recommend that you switch to one of these drugs.

As treatments for HIV and cancer can both cause side-effects, your doctors should keep an eye on how they are affecting you. In some cases (such as nausea from chemotherapy), highly effective treatments to limit side-effects are now available. If side-effects become too severe, your doctors may need to adjust one of the treatments.

Chemotherapy and radiotherapy both suppress the immune system, which may result in a significant drop in your CD4 count. You should be given drugs to prevent opportunistic infections (this is known as prophylaxis). Your CD4 count may be checked more often after cancer treatment than it would be normally.

Recommendations about your treatment will be made by a multi-disciplinary team. This team may include an oncologist (a doctor who specialises in treating cancer), a haematologist (a doctor who specialises in treating blood cell disorders), a radiologist (a doctor who interprets the results of scans or provides radiotherapy) and a pathologist (a doctor who examines tissue for cancer cells). You will be supported by a cancer specialist nurse during your cancer journey.

Information and support

For more information, you may find the website of Macmillan Cancer Support helpful: www.macmillan.org.uk. You can also contact their helpline team on 0808 808 0000.

Find out more

Smoking Simple factsheet

Kaposi's sarcoma and HIV Simple factsheet

Non-Hodgkin lymphoma and HIV Simple factsheet