

# Immunisations

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After the body's immune system has successfully fought off an infection, certain long-lived **immune cells** become 'memory cells'. If you are exposed to the same infection again, these memory cells recognise it and trigger a new immune response against it immediately. This usually prevents the infection from causing illness again. Immunisations (also called vaccinations) help protect against infectious diseases by exploiting immune memory. They stimulate the body to produce memory cells, so the immune system is 'primed' to fend off an infection as soon as it enters the body for the first time. People with damaged immune systems (e.g. **CD4 count** below 200) may not respond to immunisations as well as healthier people. In some cases, extra 'doses' or boosters may be needed, or it may prove impossible to generate protection.

## Types of vaccine

Immunisations are given in the form of vaccines, which are usually either injected into the body or swallowed. There are three main types of vaccines:

- **Sub-unit vaccines** contain fragments of the disease-causing organism.
- **Inactivated vaccines** contain the whole organism after it has been killed. These are non-infectious and cannot cause illness, but the immune system still recognises them and produces memory cells.
- **Live attenuated vaccines** contain the whole organism after it has been weakened but not killed. These are the best vaccines for stimulating protective immunity, but can cause a mild attack of the disease they are designed to protect against.

Sub-unit vaccines and inactivated vaccines are all safe for people with HIV, as are some live attenuated vaccines. However, you may be warned not to receive certain live attenuated vaccines, especially if your CD4 count is low. A damaged immune system may not be able to control the weakened vaccine organisms, leading to a serious episode of the disease you were trying to prevent.

## Recommended immunisations

Specific immunisations may be recommended depending on your individual circumstances. The following vaccines are considered safe for people with HIV to receive if necessary:

- **Live attenuated vaccines:** measles, mumps, rubella, polio (given on a sugar-cube; this is safe, but recipients may excrete infectious polio virus in their faeces for several weeks).
- **Inactivated/sub-unit vaccines:** cholera, diphtheria, hepatitis A and/or B, haemophilus influenzae type b (bacterial pneumonia), influenza, meningococcal (meningitis), pertussis (whooping cough), pneumococcal (bacterial pneumonia), polio (injection), rabies, tetanus, typhoid (injection).

## Immunisations to avoid

The Department of Health advises people with HIV to avoid the following live vaccines:

- BCG (tuberculosis)
- typhoid (oral)
- yellow fever

However, in practice some doctors have found that yellow fever vaccine may be safe for symptom-free people with high CD4 counts.

## Debate over viral load 'blips'

Some vaccines (not just live ones) may cause a temporary increase in your HIV viral load for several weeks after the immunisation. This occurs because the vaccine stimulates HIV-infected immune cells, encouraging the virus to reproduce.

This viral load 'blip' eventually falls back to its pre-immunisation level and there is no evidence that it is harmful, although in theory it might marginally increase your risk of developing resistance to any anti-HIV drugs that you are taking.

If you are advised to have an immunisation, its benefits (by reducing your risk of an illness) almost certainly outweigh this risk. Bear in mind that because of the 'blip', your viral load test results may be misleading for at least four to six weeks after an immunisation.