

# I NEED TO KNOW ABOUT HIV TESTING

**Transfusion Fact Sheet Volume 1, Number 7**  
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## What is HIV?

Human Immunodeficiency Virus (HIV) is the virus responsible for causing the life-threatening condition called Acquired Immune Deficiency Syndrome (AIDS).

## Why is the Blood Service concerned about HIV?

HIV can be transmitted by blood products. ARCBS wants to minimise the risk of transmitting HIV as much as possible. Blood Service procedures, such as the donor questionnaire and interview process are designed to detect donors who may have a higher risk of HIV. We also perform blood tests looking for HIV.

## What tests do the Blood Service use for HIV detection?

The Blood Service tests all blood donations for HIV with two tests:

- Nucleic acid testing (NAT) which detects ribonucleic acid (RNA) from the HIV-1 virus. The RNA is part of the actual virus.
- Chemiluminescent immunoassay (ChLIA) which detects antibodies to both HIV-1 and HIV-2. Antibodies are immune molecules which our body makes when viruses and other foreign antigens invade.

## Even with testing, can HIV be acquired from a blood transfusion?

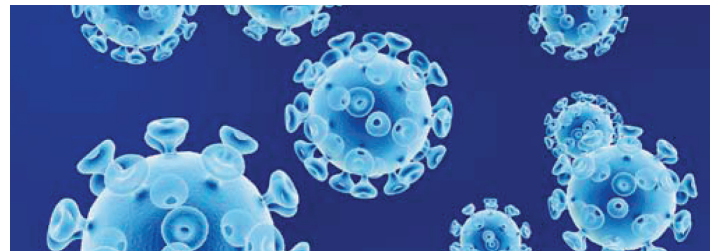
It is possible but extremely unlikely. NAT and ChLIA are very sensitive however there is a 'window period' associated with these tests.

## What is a 'window period'?

The window period is the time between exposure to a virus to the time it is detectable by our tests. The window period for HIV is about nine days.

## What is the current risk of transfusion-transmitted HIV?

The Blood Service estimates the risk of transfusion-transmitted HIV infection on multiple data each year. This 'residual risk' for HIV infection per unit is very small – currently less than one in a million.



## How does this compare internationally?

- Blood Service residual risk for HIV infection less than 1 in 1 million
- USA 1 in 2 million
- France 1 in 3.3 million
- Germany 1 in 4.3 million
- UK 1 in 7 million
- Canada 1 in 7.8 million.

## How does this residual risk compare to everyday risks?

The HIV risk estimates are very small when compared to everyday risks. The chance of dying in a road accident, for example, is about 1 in 10,000 per year which is considered a 'low' risk. Comparatively, the HIV residual risk estimate is classified as negligible.

### The CALMAN Chart for explaining risk (UK risk per one year)

<b>Negligible:</b>	< 1:1,000,000 e.g. death from a lightning strike
<b>Minimal:</b>	1:100,000–1:1,000,000 e.g. death from a train accident
<b>Very low:</b>	1:10,000–1:100,000 e.g. death from an accident at work
<b>Low:</b>	1:1000–1:10,000 e.g. death from a road accident
<b>Moderate:</b>	1:100–1: 1000 e.g. death from smoking 10 cigarettes per day
<b>High:</b>	> 1:100 e.g. transmission of chickenpox to susceptible household contacts

Calman K. The Health of the Nation. *Br J Hosp Med* 1996; 56: 125–6.

## BLOOD FACT

HIV avoids detection by the human immune system by infecting the control cells of immunity – the T-cells.