

This is a brief guide to blood borne viruses:

- **Human Immunodeficiency Virus (HIV)**
- **Hepatitis B and**
- **Hepatitis C**

It provides basic facts about how they are transmitted (passed on from person to person) and if you are exposed what can be done to prevent acquiring an infection.

BLOOD BORNE VIRUSES (BBV) the risks from being exposed

HIV

HIV attacks the immune system, and gradually causes damage. This can mean that a person infected with HIV is at risk of developing some serious infections that a healthy immune system can fight off. When a person develops certain illnesses or cancers, they are said to have developed AIDS. There is no cure for HIV, however advances in treatment mean people living with HIV can expect a near normal life expectancy.

The HIV virus can be found in blood, genital fluids and breast milk. Saliva, vomit and faeces are not considered infectious unless blood is visible.

Hepatitis B

Hepatitis B is virus that causes damage to the liver. Many infected people have no symptoms, but others may have a flu-like illness with sickness and jaundice (a yellowing of the skin or the eyes) early in the infection. Most adults will permanently clear the virus within a few months. Hepatitis B becomes a chronic infection when the infection persists longer than six months. Chronic hepatitis B can lead to scarring of the liver and liver cancer. Chronic hepatitis B cannot be cured but treatment is available that can manage the disease.

A vaccine is available that can prevent Hepatitis B.

Hepatitis C

Hepatitis C is a virus that causes damage to the liver. Around one in three people who become infected will clear the virus by themselves. However most people go on to develop chronic hepatitis C. This can cause severe liver damage which can lead to liver scarring and liver cancer. There is no vaccine to prevent hepatitis C but effective treatment is available which can cure up to 80% of those chronically infected.

Transmission of BBVs

These infections can be passed from person to person in different ways including sex, sharing injecting equipment and injuries where there is a transfer of blood or other body fluid. Over 500 significant occupational exposures (injuries at work) are reported per year in healthcare workers in the UK however the last case of an HIV seroconversion in an occupationally exposed healthcare worker was reported in 1999. Most events that can transmit a BBV, such as having sex or being stuck by a needle carry a low risk.

BBVs cannot be transmitted by kissing, shaking hands, sharing cups or toilet seats

The table below shows examples of the risk of getting a BBV based on exposure type and virus where the source (the person whose body fluid was involved) is known to be infected with that virus. There is little data on level of risk for some viruses and some routes of transmission.

	Needlestick injury	Mucocutaneous exposure*	Receptive Vaginal Sex	Receptive Anal Sex
HIV	1 in 300	1 in 1000	1 in 500	1 in 50
Hepatitis C	1 in 30			
Hepatitis B	1 in 3			

*When the eye(s), the inside of the mouth, is splashed with blood or other body fluid

Where people through their work are at an increased risk of being exposed to BBVs procedures should be in place to reduce the risk of transmission. This includes vaccination, personal protective equipment, protocols on safe use and disposal of sharps following standard infection control procedures as well as guidance on what to do if exposed. This typically applies to healthcare workers, medical and research laboratory staff who handle body fluids, the police and those working in prisons.

What to do when an exposure has occurred

Carry out appropriate **first aid**

- **Keep calm**
- **If the skin is punctured gently encourage the wound to bleed, but do not suck**
- **Thoroughly wash the wound with soap and warm water. Do not scrub**
- **Cover with a waterproof plaster**
- **For splashes to mucous membranes or broken skin, flush it with lots of water**

Seek medical assistance. If the exposure has occurred in an occupational setting you must discuss this with your own occupational health provider.

What happens next?

Your doctor will assess the risk to you of acquiring an infection based on the injury or exposure and whether you would benefit from further assessment and treatment.

If you think you have been exposed to a BBV, the source individual (the person who's body fluid you have come into contact with) can be tested for HIV, Hepatitis B and Hepatitis C. They are not obliged to have a test but, most people will agree to be tested and this can help you and them understand the risk of transmission now and in the future.

Where there is a very high risk of Hepatitis B or HIV transmission you may be prescribed treatment that can prevent transmission called post-exposure prophylaxis (PEP).

■ HIV PEP is a combination of medicines taken for 28 days. HIV PEP, when required, should be started within 72 hours of exposure and is thought to be most effective when started within hours of the event. The tablets used for HIV PEP do have side effects and it is only prescribed where there is a high risk of transmission. HIV PEP is not usually given for injuries from discarded needles in the community or human bites as these are unlikely to transmit HIV unless the person doing the biting or using the needle has untreated HIV.

■ Hepatitis B PEP is a vaccination and sometimes immunoglobulin (this is an injection of antibodies). Hepatitis B PEP may be useful up to 7 days after the event. Which combination of vaccine or immunoglobulin is used depends on whether people have had previous vaccinations and whether they are at ongoing risk of Hepatitis B.

Your doctor may also arrange follow up testing to determine if you have acquired any infections. This is usually done three months after the exposure and again at 6 months for Hepatitis C and Hepatitis B.

There is no PEP available against Hepatitis C though treatment early on in infection is very successful and if your tests return as positive you should be referred to the specialist hospital team by your doctor.

Protecting yourself and others in the future

Use all the available ways to protect yourself in the future, this includes:

- **familiarising yourself with your workplace guidelines**
- **getting vaccinated against Hepatitis B where required**
- **using condoms to protect against sexual transmission**
- **getting tested for BBVs if you think you have been put at risk**

Reference 1:
Department of Health (2008) HIV Post Exposure Prophylaxis: Guidance from the UK Chief Medical Officers. Expert Advisory Group on AIDS. London, Department of Health

Reference 2:
Department of Health, Welsh Office, Scottish Office Department of Health and DHSS (Northern Ireland) (2006) **Immunisation against Infectious Disease**. London. The Stationary Office.

Reference 3:
Health Protection Agency (2012) Eye of the Needle. Viewed: 04/04/13