

# Hepatitis C transmission

**H**epatitis C is a blood-borne virus. Transmission can only occur when the blood of a person infected with hepatitis C enters the bloodstream of an uninfected person.

The point of entry for infected blood can be a fresh cut, or broken or punctured skin. The hepatitis C virus cannot penetrate unbroken skin and is killed by the digestive juices in the stomach if swallowed.

Apart from open wounds or punctures, another point of entry is the eyes, as the blood vessels underneath the eyelids are very close to the surface.

## Relative transmission risk factors

Ways the hepatitis C virus can be transmitted:

- sharing and/or re-using of injecting drug equipment (very high risk)
- sharing or re-using of tattooing or body piercing equipment (medium - high risk)
- blood transfusions prior to 1990 (medium risk)
- medical or dental procedures overseas (variable risk)
- occupational needle-stick or sharps injury containing hepatitis C infected blood (low risk)
- mother-to-baby during pregnancy or birth (low risk)
- in the home: including sharing of razor blades, toothbrushes and other personal grooming aids (very low risk)
- needle-stick injury in a public setting (extremely low risk)
- medical or dental procedures in Australia (extremely low risk)
- blood transfusions after 1990 (extremely low risk)
- sexual transmission – hepatitis C is not a sexually transmissible infection (extremely low risk).

## Sharing of injecting equipment (high risk)

Non-sterile injecting of illicit drugs is the most common way of contracting hepatitis C in Australia, with around 90% of new infections resulting from the sharing and re-using of injecting equipment.

The highest risk of infection occurs through sharing needles and syringes (fits) but all injecting equipment can transmit the hepatitis C virus – this includes spoons, filters, water, tourniquets and swabs.

The hepatitis C virus can be present in amounts of blood that are too small to be seen with the naked eye. Contaminated blood can be on surfaces that are used to prepare drugs, as well as on fingers and hands.

When preparing drugs, people should have a separate preparation area set aside for their use only. They should thoroughly wash their hands with warm, soapy water before, and immediately after each injection.

Injecting in the company of other people reduces the risk of death from overdoses, but sharing any injecting equipment is a risk for hepatitis C and other blood borne virus transmission. People with hepatitis C can be re-infected with a different genotype (or strain) of the hepatitis C virus.

## Reducing the risk of hepatitis C transmission

To reduce the risk of hepatitis C transmission, people who inject drugs need to:

- Always use sterile needles and syringes.
- Never share any drug injecting equipment, including: spoons, filters, water, tourniquets and swabs.
- Wash hands thoroughly before and after each injection, pay attention to the tips of fingers and the sides of the hands, as these are often missed.
- Clean surfaces with soapy water and/or wipe down with 1 part bleach to 10 parts water. Include tables and benches etc. where drugs are prepared or drug injecting equipment is placed.

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- Be blood aware! Ensure your blood does not come into contact with anyone else and do not let other peoples' blood come into contact with you.
- Do not help other people inject or let them help you, unless all hands have been thoroughly washed and/or disposable single use gloves are used.
- Safely dispose of the used needle and syringe (use a sharps container).
- If you intend to inject drugs, plan ahead and stock up with new fit packs. Sterile needles /syringes are freely available from needle and syringe programs.
- Cleaning used needles or syringes for re-use is not recommended because it can't be guaranteed that the hepatitis C virus is killed in the cleaning process.

### **Un-sterile tattooing or body piercing (medium to high risk)**

Tattooing, body piercing and other scarification processes all involve penetrating the skin and the presence of blood. To reduce the risk of hepatitis C transmission, the equipment must be completely sterile and the techniques used in tattooing and body piercing should apply standard infection control principles.

When selecting a tattooist or body piercer make sure that:

- The premises are clean and well lit and the surfaces being used are disinfected.
- The tattoo or body piercing studio is registered with the local council.
- The tattooist or body piercer is using new needles, or if they are re-using needles, they must be properly sterilised.
- The tattooist or body piercer is wearing gloves.
- The ink being used is from a container that has not been used before.
- Any other equipment being used by the tattooist or body piercer comes from a sterile container or bag.
- If you get a tattoo or piercing in a juvenile detention centre or prison, or by a backyard operator, your chance of becoming infected is very high. The equipment is usually not clean and will nearly always have been used on others before you.

### **Occupational needle-stick transmission in health settings (low risk)**

Overall, the risk of acquiring hepatitis C from a needle-stick (or sharps) injury in a medical setting is around 3%.

The extent of the risk depends on a number of factors including the size of the needle and the depth of penetration. Healthcare and custodial workers are advised to apply infection control precautions at all times and should consider being vaccinated against hepatitis A and B.

### **Mother-to-baby: also known as vertical transmission (low risk)**

Up to 5% of babies may acquire the virus from a mother who has hepatitis C.

The virus does not appear to pass through the placenta during pregnancy. It is thought that the risk of transmission occurs during the birthing process when the mother's blood is present and there is the possibility of skin injury to the baby, allowing blood-to-blood contact.

Babies are born with their mother's antibodies and parents who wish to know if the baby has contracted hepatitis C are advised to wait for at least 18 months after birth. By this time the mother's antibodies have cleared and the baby will have developed its own antibodies, if the baby has contracted hepatitis C.

Mothers with hepatitis C are encouraged, like all mothers, to breastfeed their baby. As hepatitis C is a blood-borne virus, breastfeeding mothers should check their nipples before each feed and temporarily stop breastfeeding if they are cracked or bleeding. Any expressed milk from cracked or bleeding nipples should be discarded.

A midwife or lactation consultant will be able to provide information about appropriate techniques for positioning and attachment of the baby for breastfeeding to prevent cracked nipples.

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## **Hepatitis C transmission in the home (very low risk)**

Transmission may occur through the sharing of a range of personal grooming items such as razor blades, toothbrushes, nail files, nail clippers and tweezers. People with hepatitis C are advised to keep these items separate for their own use and not share them with other household members.

When giving first aid:

- Use latex gloves when administering first aid or when cleaning up any blood spills.
- Blood spills should be soaked up and cleaned using disposable materials such as paper towels, water and detergent. After cleaning with water and detergent, wipe surfaces with 1 part bleach to 10 parts water.
- If contact with blood is made, wash blood away as soon as possible, preferably with soap and water.
- Injuries such as minor cuts and needlestick injuries should be washed with normal saline or soapy water and then covered with a waterproof dressing.

Open wounds are a possible entry point for hepatitis C. Dressing all wounds with waterproof dressings will protect against infection.

## **Medical or dental procedures in developing countries (variable risk)**

Not all countries have the same infection control procedures as Australia. Some people from overseas were infected with hepatitis C through unsafe medical practices (including vaccination programs) in their country of origin. Undergoing medical or dental treatment in some countries may carry with it a higher risk of acquiring hepatitis C and other blood borne viruses.

## **Blood or blood product transfusions (extremely low risk)**

Prior to 1990 there were no tests for hepatitis C and procedures such as blood transfusions presented a medium risk of transmitting hepatitis C. It is believed that around 5-10% of people with hepatitis C contracted the virus through contaminated blood or blood products.

Tests to detect hepatitis C in blood became available in 1990. All donated blood is now tested for hepatitis C and the risk of transmission through blood transfusion and blood products in Australia is extremely low.

## **Sexual transmission (extremely low risk)**

Hepatitis C is not classified as a sexually transmitted infection.

For transmission to occur during sex, blood from an infected person has to get into the blood stream of another person. There would need to be an entry point (broken skin, sore, etc) in the skin of the uninfected person and the infected person would need to be bleeding during sex.

As with any activity, caution should be exercised if blood is likely to be present during sex. For example: sex during menstruation, anal sex, abrasive sex that may cause bleeding or if someone has a condition that involves sores or blisters in the genital region, such as sexually transmissible infections like herpes, chlamydia or gonorrhoea, etc.

There is increasing evidence that people with immune deficiencies such as HIV are at a greater risk of sexual transmission of hepatitis C.

## **Useful contacts**

### ***Hepatitis C Victoria***

Hep C Infoline 1800 703 003  
Office telephone: (03) 9380 4644  
Email: [info@hepcvic.org.au](mailto:info@hepcvic.org.au)  
Web: [www.hepcvic.org.au](http://www.hepcvic.org.au)

### ***HIV / Hepatitis / STI Education and Resource Centre at the Alfred***

Telephone: (03) 9076 6993  
Email: [erc@alfred.org.au](mailto:erc@alfred.org.au)  
Web: [www.hivhepsti.info](http://www.hivhepsti.info)

### ***HIV Sexual Health Connect Line***

Telephone: 1800 038 125  
Web: [www.connectline.com.au](http://www.connectline.com.au)

## **Useful publications**

### *Impact*

### *Sexually Transmissible Infections*

*Treatment is good / prevention is better*  
Department of Human Services Booklet

Both these publications are available from  
Hepatitis C Victoria