**An Overview of:**

**Hepatitis C Transmission and Prevention**

—Alan Franciscus, Editor-in-Chief

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Direct blood-to-blood contact transmits hepatitis C.

The main transmission routes and the populations at risk for hepatitis C include:

- Blood transfusions and organ transplants before 1992
- Receiving blood clotting factors before 1987
- Receiving hemodialysis
- Sharing drug paraphernalia for injection
- Sexual transmission
- Children born to HCV-positive mothers
- Healthcare workers
- Sharing personal items
- Tattoos and piercings
- Being born 1945 to 1965
- Vietnam era combat veterans
- Having medical or dental procedures performed in some foreign countries

Notify your doctor, dentist, and other healthcare professionals if you have HCV.

HCV is not transmitted by casual contact such as:

- Sneezing
- Coughing
- Hugging
- Sharing eating utensils and drinking glasses

This fact sheet will include transmission routes and how to prevent the transmission of hepatitis C.

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**CONTACT INFORMATION**

Hepatitis C Support Project
PO Box 15144
Sacramento, CA 95813
alanfranciscus@hcvadvocate.org

The information in this fact sheet is designed to help you understand and manage HCV and is not intended as medical advice. All persons with HCV should consult a medical practitioner for diagnosis and treatment of HCV.

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Blood Transfusions/Organ Transplants
Before 1992, many people contracted hepatitis C through blood, blood product transfusions, and solid organ transplantations. Now, blood used for transfusions is screened for hepatitis C. Today transfusion-related cases occur in less than one per 2 million transfused units of blood. Organs used for transplantation are also screened for hepatitis C and other pathogens.

Clotting Factors
People who received clotting factors before 1987 should be screened for hepatitis C. Now, clotting factors are thoroughly screened and considered safe.

Hemodialysis
Hemodialysis is a machine that filters the blood when the kidneys are damaged. Since it is difficult to clean a hemodialysis machine, it is recommended that those who receive hemodialysis are periodically tested for hepatitis C and other blood-borne diseases.

Sharing Injection Drug Paraphernalia
The primary transmission route for hepatitis C includes sharing drug paraphernalia for injection drugs (needles, cookers, tourniquets, water etc.). Non-injection drug paraphernalia such as straws and pipes are also a potential source of transmission.

The hepatitis C virus has been found to live for up to six weeks at room temperature. One study, found that HCV could live for up to 63 days in a high volume tuberculin syringe with a detachable needle compared to 7 days in a low volume syringe (insulin syringe with permanent needle). HCV has also been found to survive in cotton, cookers, water and pretty much anything involved with the process of injecting drugs. For this reason, it is recommended that people who inject drugs should not share needles or any other drug paraphernalia (works-cookers, cotton, ties, water, etc.). Additionally, do not share non-injection drug equipment (straws, pipes, etc.)

Sexual Transmission
A small percentage of people may contract HCV through unprotected sexual activity, especially when blood is present. Multiple studies have found that the risk of transmitting hepatitis C in a stable long-term (5 years or longer) monogamous relationship is very low (0 – 3%). There is a higher risk for people who have a sexually transmitted disease, those who have multiple sexual partners, and those who engage in certain sexual practices such as anal sex. Some studies indicate that sexual transmission from men to women is more efficient than transmission from women to men. However, since HCV is spread through blood, the risk of sexual transmission may be higher when a woman is having her menstrual period.

Sexual transmission of HCV among HIV-positive men who have sex with men, however, has been shown to be higher. There have been outbreaks of acute HCV acute infections in larger metropolitan cities throughout the world.

In any situation where blood is present, or if there is a possible risk of sexual transmission, safer sex practices should be encouraged. Using condoms is the surest way to prevent transmission of HCV. Safer sex practices can also help prevent the spread of hepatitis A and B, HIV, and other sexually transmitted diseases.

Mother-to-Child
Transmission from mothers with HCV to their infants before or during birth (perinatal) occurs about 4–6% of the time. Mothers who are coinfected with HIV are more likely to transmit HCV to their babies. Whether or not transmission occurs may depend on the presence of high levels of the virus in the mother's blood. If a woman is thinking about becoming pregnant, she should talk to her doctor and weigh various options.

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There are certain risks to the baby if the mother is HCV positive. There is also the option for a woman to be treated before becoming pregnant—treatment duration is shorter, side effects are lower and cure rates are now above 90% making it a viable option to consider.

**Children Born to HCV Positive Mothers**
A baby will receive an HCV-positive mother's antibodies. It typically takes 12 to 18 months for the mother's antibody to clear out of the infant's body. For this reason, they will not test the baby during this period.

There are no treatment recommendation for infants or very young children with hepatitis C. Interferon free therapies are currently in clinical trials, and there is a real possibility that treatment may be an option in the near future.

**Healthcare Workers**
Healthcare workers are at risk for HCV infection because of needle-stick accidents and unavoidable situations that may result in direct contact with blood from an HCV-infected individual.

The prevalence of hepatitis C in the healthcare industry is not much higher than ~2%, which is the general prevalence of HCV. Standard Safety or Universal Precautions will protect healthcare workers from becoming infected with hepatitis C. The risk is primarily from needle stick accidents involving hollow-bore needles. Transmission from exposure to fluids or tissues other than HCV-infected blood can occur, but it is uncommon. If exposure does occur, testing should be initiated, and an occupational exposure report should be filed.

**Personal Care Salons**
There is a real possibility that hepatitis C could be transmitted in a personal care salon if attention to blood born safety precautions is not followed carefully. Some tools used by piercers, manicurists, and barbers should be used only once, on a single person. Orange wood sticks, cotton balls or swabs, sponges, neck strips, and other items that cannot be sterilized should be used by only one person and then thrown away. When possible, substitute single-use items for reusable items.

Blade or scraper tools used to trim calluses (such as Credo blades) are especially likely to come into contact with blood. Many states prohibit the use of such tools in nail salons. Needle-like instruments used to extract skin blemishes are also likely to be prohibited. Cutting cuticles presents a risk for contact with blood, and many experts recommend that nail salon workers should not cut cuticles.

Non-disposal tools can be sterilized using a machine called an autoclave that uses steam and dry heat. Other tools can be cleaned with commercial disinfectants that have been approved by the Food and Drug Administration (FDA) and that state that the disinfectants will kill HCV.

**Tattoo**
The transmission of HCV by tattooing practices has not been well-documented, but there is the possibility that a person could become infected this way if precautions are not followed very carefully. Because it is harder to obtain sterile tattooing tools including ink in prisons or on the streets, getting a tattoo in these settings carries a much higher risk of transmitting HCV.

To prevent transmission of hepatitis C, only single use items should be used for ointments, tattoo inks, needles, gloves, trays, and any other materials that come into contact with blood. All items that are used on a person should be disposed of in a 'sharps' or a puncture-proof container. Any materials that are reused should be autoclaved. The surfaces and shop, in general, should be clean and disinfected. After a person receives a tattoo, they should take care of their tattoo to make sure that it does not get infected. At the first sign of infection—see a physician.
Being Born from 1945 to 1965
It has been established that Americans born between 1945 and 1965 are at increased risk for having hepatitis C. If you were born in this period be sure to be tested for hepatitis C. It is estimated that if everyone who was born during this period were tested that 880,000 Americans could be identified as having hepatitis C who could then seek medical treatment and a cure.

Vietnam Era Combat Veterans
Combat veterans who served in Vietnam are at risk for hepatitis C and should be tested.

Having Medical or Dental Procedures Performed in Some Foreign Countries
Immigrants from foreign countries who received blood or blood products that were not screened for hepatitis C or who had unsafe medical procedures should be tested for hepatitis C. In addition, medical tourism—that is, having medical or a dental procedure done in foreign countries that may be cheaper—has become popular as medical costs have skyrocketed. However, not every country has the medical safety practices in place to protect patients from contracting blood borne pathogens. If this is a concern, please consider being tested for hepatitis C.

*Note: The transmission route for up to 10% of individuals infected with HCV cannot be identified.*

**Related publications:**

- Frequently Asked Questions about Sexual Transmission  
  www.hcvadvocate.org/hepatitis/factsheets_pdf/sexFAQ.pdf
- How Long Does HCV Live on Surfaces and in Syringes?  

**For more information**

- Americans with Disabilities Act  
  www.ada.gov
- Centers for Disease Control and Prevention  
  www.cdc.gov
- Mayo Clinic  
  www.mayoclinic.org
- MedlinePlus  
  www.nlm.nih.gov/medlineplus