

HCSP TRAINING MANUAL

SECTION IV: HCV TRANSMISSION AND PREVENTION

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The information in this guide 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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HCV TRANSMISSION AND PREVENTION

Objectives:

- *Be able to explain several different ways hepatitis C is transmitted*
- *Be able to discuss which routes of transmission are most and least common*
- *Be able to describe ways to prevent transmission of HCV*

HCV Transmission and Prevention

HCV Transmission and Prevention: Key Points:

- *HCV is transmitted through blood-to-blood contact.*
- *The most common transmission routes are sharing HCV-infected needles and drug preparation equipment.*
- *Do not share needles, cottons, cookers, water, ties, or any other equipment used for injecting drugs.*
- *Tattooing, piercing, and acupuncture are possible HCV transmission routes; equipment should be used for only one person or sterilized between use, and a new needle and new tattoo ink pot should be used for every person.*
- *Household items such as razors, toothbrushes, and nail files may also transmit HCV; do not share these items.*
- *Prior to 1992, hepatitis C was transmitted through HCV-contaminated blood or blood product transfusions and solid organ transplantation.*
- *Prior to 1987, people who received clotting factors were at risk for hepatitis C.*
- *Healthcare workers are at risk for HCV infection through needle sticks and other occupational exposure to blood.*
- *Practice universal or standard safety precautions in healthcare settings, including the use of gloves.*
- *Sexual transmission of HCV is controversial, but most studies show it is rare among long-term, heterosexual monogamous partners.*
- *Practice safer sex, including the use of condoms, if concerned about sexual transmission of HCV.*
- *Mother-to-child (perinatal) transmission occurs about 4-7% of the time.*

HCV Transmission and Prevention:

General Information

Hepatitis C is a blood-borne disease. This means it is spread through contact with blood. The most common route of transmission is sharing used HCV-infected needles to inject drugs. The hepatitis C virus (HCV) can also be spread by small amounts of blood in cookers, water, cottons, and other drug injection equipment. Equipment used for non-injection drugs, such as crack pipes and cocaine straws, may also spread hepatitis C. Other implements that come into contact with blood can also spread HCV. These include tools for tattooing, body piercing, and acupuncture, as well as personal items such as razors, toothbrushes, and manicure tools.

Before 1992, many people got hepatitis C through blood transfusions. However, today donated blood is tested and transfusions are considered safe. Sometimes people who work in healthcare facilities get hepatitis C when they accidentally stick themselves with used needles or otherwise come into contact with infected blood. Another source of infection is from medical providers when proper safety and sterilizations procedures have not been followed; e.g., reuse of single use items, improper sterilization of endoscopes and other tools, or, as reported in the *Annals of Internal Medicine*, when syringes used to draw blood from venous catheters are reused to withdraw saline solution.

Hepatitis C may also be spread through sexual activity, but this is uncommon. Most studies show that there is only a 0-3% incidence of HCV in sexual partners of heterosexual people in a stable long-term relationship. Mothers with hepatitis C can pass the virus on to their babies before or during birth, but this is also uncommon, occurring in about 4 to 7% of births to HCV-positive mothers. This risk of transmission is increased if the mother also has HIV infection. HCV is not known to be transmitted through breast-feeding.

Hepatitis C is not spread through casual contact such as sneezing, coughing, hugging, or sharing drinking glasses. For about 1 in 10 people with hepatitis C, it is not known how they became infected.

Needles and Drug Use Equipment:

Injection Drugs

The most common way people acquire hepatitis C is by sharing HCV-infected needles and other equipment for injecting drugs. This includes cotton, cookers, water, and

ties or tourniquets. In fact, any implement that comes in contact with blood can transmit HCV. This happens when a small amount of infected blood stays in the needle or on the equipment after it is used by one person and is injected into the bloodstream of the next person who uses the needle or equipment. The virus that causes HCV is so tiny and so virulent that only a tiny amount can cause infection. Amounts of blood that are too small to be seen can still transmit HCV. Recently, there has been a dramatic increase in reported cases of acute HCV infection in young injection drug users who are sharing needles and works. The Centers for Disease Control is strengthening their identification and prevention messages to combat a possible second-wave of an HCV epidemic.

Prevention Tips: Do not share needles, cookers, water, cotton, ties, or any other equipment used for injecting drugs that may come into contact with HCV-infected blood. In some areas, local needle exchanges provide clean needles and other equipment to injection drug users to stop the spread of HCV, HBV, HIV, and other blood-borne diseases. People should only use their own needles and injection equipment. If this is not possible, some experts believe that cleaning needles with bleach may provide some protection against HCV transmission, but this has not been proven. However, cleaning needles has been proven to prevent infection with other blood borne pathogens. Use full-strength, regular household bleach (10 parts water to one part bleach); make sure the expiration date on the bleach bottle has not passed. Use cold water to rinse needles; warm water will make it more difficult to get the blood out of the syringe. Care should be given to avoid touching anyone else's blood and hands should be thoroughly washed before and after injecting.

Cleaning Needles:

The information below is a compilation of needle cleaning practices from around the United States.

Preparation: Two clean cups or other containers, one for bleach and one for cold water. Be careful not to contaminate either cup with used water or used bleach.

1. Draw up water into the needle and flush it down the sink or onto the ground. Try to get as much water out of the syringe as possible. Do not flush the used water into the cups containing the clean water or bleach.
2. Repeat step 1 (above) three times.
3. Draw up bleach into the needle and flush it out, as was done with the water. Do not flush the used bleach into the cups containing the clean water or bleach.

4. Repeat step 3 (above) two times.
5. The third time, draw up bleach into the needle and let it stand in the syringe for three to ten minutes before flushing it out.
6. Finally, draw up cold water into the syringe and flush it out to remove any remaining bleach.
7. Repeat step 6 (above) two or three times.

Non-Injection Drugs

Some experts believe that tools used for non-injection drugs can potentially transmit HCV, although these routes have not been scientifically proven.

Cocaine/crank straws – the membranes of the nose are very thin, which makes it easy for small amounts of blood to stick to the straw. Straws can be any device (plastic, metal, rolled up paper or dollars) that is used to snort. When the straw is passed from one person to another, HCV-infected blood can be transmitted to the second person's nasal membranes and absorbed into the bloodstream.

Prevention Tip: Do not share cocaine or crank straws.

Crack pipes – people who smoke crack cocaine may have cracked and bleeding lips or gums. If a person who uses a pipe has HCV, other people who share the pipe could be infected if they also have bleeding lips or gums.

Prevention Tip: Do not share pipes or other smoking equipment that may come into contact with blood. Use and do not share crack pipe holders.

Tattoos and Body Piercing

Transmission of HCV through tattooing and body piercing has not been well-documented, but there is a very real possibility that a person could become infected this way if precautions are not followed carefully. Professional tattooists and piercers should use needles on only one person and sterilize all equipment in an autoclave between uses. A separate ink pot should be used for each individual. Because it is harder to obtain sterile tattooing or piercing tools in prisons or on the streets, getting a tattoo or piercing in these settings carries a greater risk of transmitting HCV.

Prevention Tips: Talk with the tattoo artist and ask them what they do to ensure that safety precautions are being carefully followed. Make sure only new needles are

used and that all tattooing and piercing equipment is properly cleaned and sterilized. Ensure that separate ink pots are used for each individual. Scrutinize the practices of prospective tattooists and piercers prior to having any work done. Avoid sharing pierced earrings or other piercing jewelry, and sterilize jewelry between wearers. For more information about tattoo safety visit: www.hepatitistattoos.org

Shared Personal Items

Although it has not been well-studied, some experts believe that sharing personal items such as razors, toothbrushes, or manicure tools that may come into contact with some blood is a possible (though unlikely) HCV transmission route.

Prevention Tips: Do not share razors, toothbrushes, manicure tools, or other items that may come into contact with blood. Razors and toothbrushes should be covered and clearly marked with the name of the owner in situations where these items are stored together. Take and use a personal care salon manicure kit when having manicures/pedicures.

HCV-Infected Blood and Blood Products

Before 1992, a common HCV transmission route was through blood or blood-product transfusions. A reliable blood test was developed in 1992 that effectively screens out HCV-infected blood. Today the blood supply is considered safe; now transfusion-related cases occur in less than one per 2 million transfused units of blood. However, it is possible that a donor may have been exposed to HCV but not yet developed the antibodies that are detected by the test; this is called the “*window period*.” The window period for HCV is 2 to 26 weeks. People who believe they may have been exposed to HCV should not donate blood. Also, people should not use blood banks to test themselves for HCV, but should instead see their healthcare provider for an HCV test or utilize a Home Access HCV Test (an antibody test available for anonymous home use) available through the mail or at certain pharmacies. HCV is not contracted by donating blood; blood banks use a new needle for each donor. Organ transplants are also a potential route for HCV transmission but, as with blood, donated organs are screened for HCV.

Prevention Tip: Do not use blood banks to test for HCV. People who have HCV or think they may have been exposed should not donate blood.

Exposure in HealthCare Settings

Healthcare workers are at risk for contracting hepatitis C due to accidental needle sticks and unavoidable situations that may result in direct contact with blood from an infected individual. HCV is unlikely to be transmitted from a healthcare provider to a patient, or from patient to patient in a healthcare setting, although this has occurred when medical equipment was not properly sterilized or disposed of.

Prevention Tips: Healthcare professionals should always follow universal or standard safety precautions, including the use of gloves and face and eye protection if appropriate. Properly dispose of or sterilize used equipment when appropriate. Properly dispose of used bandages, and clean and disinfect spilled blood and body fluids. If unavoidable blood exposure does occur, testing for infectious diseases such as HCV, HBV and HIV should be initiated and an occupational exposure report should be filed.

Sexual Transmission

The risk of transmitting HCV through sexual activity is low. Although HCV sometimes has been found in semen and vaginal fluids, most studies suggest that the virus is not present or is present in very small amounts. Studies have found a very low incidence (0-3%) of hepatitis C infection among sexual partners of people infected with hepatitis C who are in a long term heterosexual relationship. Health Canada estimates the risk that a person will get HCV from unprotected sex with a steady HCV-infected partner at 2.5% over 20 years. Some studies indicate that sexual transmission of HCV from men to women is more efficient than transmission from women to men. Since HCV is spread through blood, the risk of sexual transmission may be higher when a woman is having her menstrual period.

According to the Centers for Disease Control and Prevention (CDC) people in a stable, monogamous relationship do not need to change their current sexual practices, although they should be advised that the correct use of condoms may reduce the risk of transmission. Safer sex options should be discussed if either partner is concerned about sexual transmission. People who have multiple sex partners should practice safer sex to prevent sexual transmission of hepatitis C and other diseases that may be transmitted through sex.

There are no known cases of HCV being transmitted through oral sex on a man (fellatio) or a woman (cunnilingus). However, it is possible that the virus could be transmitted this way if a person has mouth sores, bleeding gums, or a throat infec-

tion. There are also no known cases of HCV being spread through kissing, including deep, open-mouth, or “French” kissing. It is again possible that HCV could be transmitted this way if either partner has mouth sores, bleeding gums, or any other condition that could permit blood-to-blood contact, but this mode of transmission is believed to be very rare.

Among people in so-called “high risk” groups (gay men, prostitutes, people with multiple sex partners, people seen at STD clinics), sexual transmission of HCV appears to be more common. Sexual transmission of HCV among women who have sex with women has not been well-studied. In some studies of men who have sex with men it has been found that there is a higher risk of sexual transmission. Studies out of U.S., Australia and Europe have shown a higher rate of acute HCV infection in HIV-positive gay men, but it is not known whether this is related to specific sexual activities or other risk behaviors such as drug use.

Experts believe that HCV (like HIV) is more likely to be transmitted if either the HCV-positive or the HCV-negative partner has another sexually transmitted disease, especially one that causes sores or lesions (for example, herpes or syphilis). Some studies suggest that people who are coinfecting with both HCV and HIV are more likely to transmit HCV; in addition, people with HIV whose immune systems are compromised have a higher risk for contracting HCV through sexual contact

Prevention Tip: *Practice safer sex if concerned about sexual transmission of HCV, including the use of latex or plastic condoms and barriers for oral sex. Learn how to use a condom correctly. Use water-based (not oil-based) lubricants and avoid products that contain nonoxynol-9.*

Mother-to-Child Transmission

Perinatal or vertical transmission from HCV-positive mothers to their infants before or during birth occurs about 4 - 7% of the time. In one study, it was found that perinatal transmission was more likely when the mother has a high level of HCV in her blood, although more studies are needed to confirm this finding; several studies have shown that no transmission occurred when pregnant women had undetectable viral loads. Mothers coinfecting with HIV in addition to HCV are more likely to transmit HCV to their babies. Studies have shown that a woman coinfecting with both HCV and HIV has a 15-35% risk of transmitting HCV to her infant. Infection with hepatitis C does not seem to negatively affect pregnancy. Obstetricians do not recommend routine Caesarean section as a measure to reduce perinatal HCV transmission.

There is no evidence that breast-feeding transmits the virus. Breast-feeding is considered safe, although a woman is advised to make sure that her nipples are not cracked and bleeding before breastfeeding her infant.

Prevention Tip: Women should discuss with their health-care provider the possibility of HCV transmission when thinking about becoming pregnant or when they learn they are pregnant. Given the low likelihood of mother-to-infant transmission, pregnancy should not be avoided simply because a woman is HCV-infected.

Household and Casual Exposure

Hepatitis C is not spread through casual contact such as hugging or social kissing. Sneezing and coughing do not transmit HCV, since it is not an airborne infection like tuberculosis. HCV is also not spread through sharing drinking glasses or eating utensils.

Prevention Tips: Cover any cuts or sores to prevent contact with blood. Promptly clean up and disinfect any spilled blood, vomit, urine, or other body fluids with a 10:1 bleach solution (10 parts of water to one part of bleach). Properly dispose of used bandages and menstrual supplies.

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