Hepatitis A

Hepatitis A is a liver infection caused by the hepatitis A Virus (HAV).

Hepatitis A virus is found in feces, and spread through the oral-fecal route, meaning that the bacteria must be eaten. It is not transmitted through blood or body fluid. People are most infectious a week or two before symptoms occur. It is most common to become infected with hepatitis A while in areas where it is prevalent such as on vacation or volunteering in a developing country. Some people may be more at risk of exposure to HAV due to their work or life-style. Hepatitis A is not considered a work-related exposure for emergency service or justice service workers.

Symptoms can last anywhere from one week to several months, however, some people, particularly young children, have no symptoms at all. Symptoms of hepatitis A infection include:

- Fever
- Body aches (malaise)
- Loss of appetite
- Upset stomach and abdominal discomfort
- Dark-coloured urine
- Jaundice (yellowing of the skin and/or the whites of the eyes).

There is no treatment for hepatitis A. Most people will suffer from an acute infection that will get better in one to two weeks. Once someone has recovered from hepatitis A infection, they develop immunity and cannot become infected again. It is unusual for people to become carriers of HAV.

To prevent the spread of HAV:

- Apply the Personal Protection Strategy Model.
- Clean hands with ABHR or soap and water for at least 15 seconds before and after any client contact.
- Use contact precautions (gloves and gown) when interacting with all clients who have signs and symptoms of diarrhea.
- Wrap the client in a blanket for transport, if possible, to minimize the chance of seats/stretchers becoming contaminated.
- Clean and disinfect all equipment used with the client, and all surfaces the client may have touched.
- Consider being vaccinated against HAV, especially if travel outside of Canada is planned. The cost of HAV vaccine is covered by service benefits packages.
- Remember to always clean your hands before eating!

Further information:
The Canadian Liver Foundation, 416-491-3353 or 1-(800) 563-5483
www.liver.ca

Or contact your Designated Officer or local Public Health Unit.
Hepatitis B

Hepatitis B Virus (HBV) is a viral infection of the liver. Some people who get hepatitis B never feel sick. Others develop flu-like symptoms, such as fatigue and nausea. Some become very ill with fever, loss of appetite, abdominal pain, dark urine, clay-coloured stools and develop a yellowish colour to their skin and eyes called jaundice. Most people who get hepatitis B recover completely and are then develop immunity to future infections. Less than 1% of people with acute hepatitis B die from the disease. Some people become carriers of hepatitis B and will require continual medical follow-up. Approximately 0.5% of adults in North America are chronic carriers of HBV.

Hepatitis B carriers are people who carry the virus in their blood and body fluids for the rest of their lives:

- Six to ten percent of people with hepatitis B become chronic carriers.
- Carriers look and feel well but can continue to pass the infection to others.
- Twenty-five percent of carriers develop cirrhosis (scarring) or cancer of the liver later in life.

Hepatitis B is spread to others by:

- Contact with infected blood or body fluids, including saliva. The infected blood or body fluid must enter a break in the skin or be absorbed through a mucous membrane, such as the eyes, nose, mouth or genital areas.
- Bites, if they break the skin, and infected blood or saliva from the biter is then able to contact the bloodstream.
- Through sharing of contaminated drug paraphernalia, such as needles.
- A carrier mother who can pass the virus to her baby during childbirth.
- Objects, such as patient-care equipment, that is contaminated with blood or body fluid coming in contact with non-intact skin or mucous membranes, as HBV can live on surfaces for upwards of 7 days.
- Flakes of dried blood contaminated with HBV coming into contact with non-intact skin or unprotected mucous membranes during cleaning or preparation of evidence, as HBV can live in dried blood for upwards of one month.

There is no treatment for HBV. It is highly recommended that emergency service and justice service workers vaccinate themselves against HBV. Unvaccinated people have a 30% chance of being infected with HBV every time they are exposed to infected blood and body fluids. If the person is vaccinated, the risk from exposure to infected blood and body fluids is zero. The cost of vaccine is reimbursable through service health benefits packages.

To prevent the spread of HBV:

- Apply the Personal Protection Strategy Model.
- Check skin for any areas that are non-intact and cover with a water-resistant dressing.
- Wear medical gloves to reduce the risk of blood/body fluid entering the body through breaks in the skin of the hands.
- If your service wears duty gloves, medical gloves should be worn over them to prevent blood and body fluid from leaking through.
- Wear eye protection and mask/respirators if:
  - blood or body fluid spray is likely.
  - your activity may aerosolize flakes of dried blood.
  - The client is likely to spit.
- Clean and disinfect any surface and/or reusable equipment that may have come in contact with blood/body fluids.
- Remove gloves and clean hands with ABHR or soap and water for at least 15 seconds before and after all client contact.

Further information:
Canadian Liver Foundation, 416-491-3353 or 1-(800) 563-5483
www.liver.ca

Or contact your Designated Officer or local Public Health Unit
Hepatitis B (HBV)

CONTACT WITH BLOOD/BODY FLUID FROM HBV-POSITIVE CLIENT?

YES

CONTACT PRECAUTIONS UTILIZED?
- Gloves
- Eye protection/gown — if splash or spray likely

CONTACT PRECAUTIONS UTILIZED?

NO

NO EXPOSURE

BLOOD/BODY FLUID ON NON-INTACT SKIN/MUCOUS MEMBRANES OR SHARPS INJURY?

YES TO ONE OR MORE OF THE ABOVE

IMMUNIZED AGAINST HBV?

YES

FOLLOW PERSONAL PROTECTION STRATEGY
- Immunization
- Hand hygiene
- Situational assessment
- Use of personal protective equipment
- Controlling location, duration, proximity & interaction
- Cleaning & disinfection of all used equipment after call

NO

NOTE
Contact with blood/body fluid from a HBV+ client without prior HBV immunization carries a risk of infection of 30%.
Immunization against HBV is RECOMMENDED for ALL workers.
Hepatitis C

Hepatitis C virus (HCV) is a virus that causes hepatitis, an acute or chronic inflammation of the liver. Hepatitis C can lead to liver damage and may lead to liver cancer. As HCV is easily spread through blood and blood products, blood for donation in Canada has been screened for HCV since 1992.

Symptoms of HCV may appear 2 weeks to 6 months after exposure to the virus, but 75% of infected people will show no signs of illness. Of those with symptoms, the most common is chronic fatigue, but they may also include lack of appetite, nausea, vomiting, itchiness, development of a yellowish colour to their skin and eyes called jaundice and joint and muscle aches. Complications of hepatitis C include chronic liver disease such as cirrhosis, liver cancer and liver failure.

Seventy-five to eighty-five percent of people infected with hepatitis C become chronic carriers. This means that they will have the virus in their blood for the rest of their lives and can unknowingly spread it to others. Most carriers remain symptom-free for many years. However, some will eventually become ill because of ongoing damage to their liver. Approximately half of all carriers of HCV will develop cancer of the liver.

Hepatitis C is spread to others by:
- Sharing needles, spoons, straws and other drug-related equipment that is contaminated with HCV-infected blood or body fluid.
- Getting tattoos or body parts pierced with used or non-sterile needles that have been contaminated with HCV-infected blood or body fluid.
- Receiving medical care where multi-use patient care equipment is not adequately sterilized between uses and remains contaminated with HCV-infected blood or body fluid.
- Receiving a transfusion of blood that has not been screened.
- Having received blood transfusions or blood products in Canada before 1992.
- Having an HCV-infected mother. Studies show that 5% to 10% of women who have HCV pass it on to their babies before or at the time of birth.
- The risk of HCV through occupational exposure, such as through needle-stick injuries or splash or spray of infected blood or body fluid on non-intact skin is less than 3%.
- Hepatitis C cannot be transmitted through mucous membranes.

To prevent the spread of HCV:
- Apply the Personal Protection Strategy Model.
- Check your skin for any areas that are non-intact and cover with a water-resistant dressing.
- Wear medical gloves to reduce the risk of blood/body fluid entering your body through breaks in the skin.
- If your service wears duty gloves, medical gloves should be worn over them to prevent blood and body fluid from leaking through.
- Clean and disinfect any surface and/or reusable equipment that may have come in contact with blood/body fluids.
- Remove gloves and clean hands with ABHR or soap and water for at least 15 seconds before and after all client contact.

Further information:
The Canadian Liver Foundation, 416-491-3353 or 1-(800) 563-5483
www.liver.ca

Or contact your Designated Officer or your local Public Health Unit.
Hepatitis C (HCV)

**CONTACT WITH BLOOD/BODY FLUID FROM HCV-POSITIVE CLIENT?**

- **YES**
  - Gloves
  - Gown – if splash or spray likely
  - HCV does NOT transmit through mucous membranes, however eye protection should be worn when exposure to blood or body fluid is likely

- **NO**

**CONTACT PRECAUTIONS UTILIZED?**

- **YES TO ONE OR MORE OF THE ABOVE**
  - Follow personal protection strategy
    - Immunization
    - Hand hygiene
    - Situational assessment
    - Use of personal protective equipment
    - Controlling location, duration, proximity & interaction
    - Cleaning & disinfection of all used equipment after call

- **NO EXPOSURE**

**BLOOD/BODY FLUID ON NON-INTACT SKIN OR SHARPS INJURY?**

- **YES**
  - Clean wound (if applicable)
  - Seek medical attention within 7 days for baseline HCV blood test
  - No post-exposure prophylaxis available

**NOTE**

Contact with blood/body fluid from an HCV+ client including sharps injury, carries a risk of infection of only 3%.

Hepatitis C **CANNOT** be transmitted through mucous membranes.