

Procedures

Definitions:

Environmental Cleaning – disinfection of work surfaces, door knobs, hand railings, shared telephones, keyboards, computer mouse, toys.

Hand Hygiene – washing hands before and after preparing/eating food, before and after going to the washroom, before and after administering first aid, and after sneezing or coughing. Using regular soap, rubbing vigorously for minimum 20 seconds, rinsing for minimum 10 seconds. Avoiding touching eyes or mouth.

Hazardous Substance, under Section 5.1.1 of the OH&S, is defined as “a liquid or solid material this is contaminated with a prion, virus, bacterium, fungus or other biological agent that has a classification given by the World Health Organization or Health Canada, as amended from time to time, as a Risk Group 2, 3, or 4 human pathogen that causes an adverse health affect.

Universal Precautions – treating all blood and body fluids (except sweat) of every person as potentially infectious. Includes hand-washing, wearing disposable gloves, correct disposal of sharps.

Risk Groups, under Part 6 of the OH&S, are defined as follows:

Risk Group 2 agent	Risk Group 3 agent	Risk Group 4 agent
<ul style="list-style-type: none"> ▪ Can cause human disease ▪ Is unlikely to spread to the community ▪ May be a hazard to workers, and ▪ Usually has an effective prophylaxis to treatment available 	<ul style="list-style-type: none"> ▪ Can cause severe human disease ▪ May spread to the community ▪ May be a serious hazard to workers ▪ Usually has an effective prophylaxis or treatment available 	<ul style="list-style-type: none"> ▪ Causes severe human disease ▪ Likely to spread to the community ▪ Is a serious hazard to workers ▪ Usually has no effective prophylaxis or treatment available

General:

1. In accordance with Part 6.34 of the Occupational Health & Safety Regulations, the employer must develop and implement an exposure control plan, based on the precautionary principle.
2. A risk assessment must be conducted and list developed that identifies:
 - a. All work activities for which there is a potential for occupational exposure;
 - b. Engineering controls and administrative controls to eliminate or minimize the potential for occupational exposure;
 - c. Standard or routine infection control precautions and transmission-based precautions for all work activities that have been identified as having a potential for occupational exposure.
3. Training and education must be provided to workers in the program and a record kept of same.

Infection Control and Transmission-based Precautions:

4. Whenever there is a viral, bacterial, fungal or parasite occurrence that causes concern to an employee, the employee must bring it to the attention of their site supervisor who will then consult the List of Risk Group 2, 3, & 4 Hazardous Substances and follow the listed reporting procedure.
5. Absenteeism of 10% or more on any one day at any one site due to same symptoms is considered an outbreak and should be reported to public health and the Health, Safety and Benefits Department.

6. With any viral outbreak, precautions should follow a continuous improvement process. With input from workers, controls and standards may include the following:
 - a. Free on-site flu vaccines.
 - b. Travellers to Asia strongly encouraged to have current vaccinations, including influenza, two to three weeks prior to leaving.
 - c. Ensuring workers know when to stay away from the workplace. Ensure the public knows when to stay away from the workplace.
 - d. Encouraging good hygiene, which includes washing hands:
 - i. After touching anything that could be contaminated with the body fluids of others (saliva, nasal secretions, feces);
 - ii. After coughing sneezing
 - iii. After using the toilet
 - iv. Before and after meals and snacks
 - v. Before and after preparing food
 - vi. Before and after smoking cigarettes
 - vii. When arriving home
 - viii. Before and after work
 - e. Providing alcohol-based hand sanitizers for workers in places or situations where it is impossible to wash hands with running water and soap.
 - f. Regular cleaning of frequently touched surfaces, such as doorknobs, railings, telephones, keyboards, etc.
7. Information on the Exposure Control Plan will be included as part of the regular New Worker/Young Worker Orientation program

List of Risk Group 2, 3, & 4 Hazardous Substances: see attached.

Appendix A: Parent Letter Templates

Appendix B: Common Disease Information

**Risk Group 2, 3, & 4 Hazardous Substances
Common Diseases caused by Human Pathogens**

<u>Biological Agent</u>	<u>Risk Group</u>	<u>Route of Transmission</u>	<u>Engineered Controls</u>	<u>Administrative Controls</u>	<u>Reporting Procedures</u>
Chicken Pox (Viral)	2	Airborne via sneezes and coughs. Direct contact with fluid from blisters.	Immunization	Do not attend school until contagious period over in accordance with Public Health; Pregnant women to consult physician immediately if they are exposed. Template for parent letter available	<ol style="list-style-type: none"> 1. School must contact Public Health Nurse directly 2. School must advise anyone with lowered immunity (i.e receiving cancer treatment) in consultation with Public Health Nurse.
Fifth Disease (Viral)	2	Airborne via sneezes and coughs Direct contact with saliva or nasal discharge, then touching your own eyes or mouth.		Hand Hygiene Pregnant women to consult physician immediately if they are exposed. Template for parent letter available	School must advise anyone with lowered immune systems or chronic hemolytic anemias (like sickle cell disease)..
Gastroenteritis (Viral) aka Norwalk or Norovirus	2	Direct contact with a person who is ill / Indirect contact by touching hard surfaces contaminated with the virus or by eating contaminated foods or drinking water.		Follow Public Health guidelines. Hand Hygiene Universal Precautions Template for parent letter available	<ol style="list-style-type: none"> 1. School must contact Public Health nurse directly if more than 10% school wide or more than 10% in one class have symptoms. 2. School must contact Service Operations Department directly to request special cleaning if the vomiting or diarrhea occurred at school.
Hand, Foot & Mouth Disease (Viral)	2	Person to person by direct contact with nose and throat secretions, saliva, blister fluid, feces of infected person via unwashed hands, virus contaminated hands and surfaces.		Hand Hygiene Universal Precautions Template for parent letter available	
Hanta Virus (Viral)	3	Aerosolization – dried mouse droppings, urine or nesting materials are disturbed and the infected aerosols are breathed in.		Rodent control in and around schools. Refer to Facilities Department Safe Work Procedure 4023. Seek medical attention if exposed	

NOTE: If 10% or more members of a school or site population are absent due to the same viral, bacterial, fungal or parasitic disease, the principal or site manager must notify their Public Health Nurse and the Health, Safety and Benefits Department.

**Risk Group 2, 3, & 4 Hazardous Substances
Common Diseases caused by Human Pathogens**

<u>Biological Agent</u>	<u>Risk Group</u>	<u>Route of Transmission</u>	<u>Engineered Controls</u>	<u>Administrative Controls</u>	<u>Reporting Procedures</u>
Hepatitis A (Viral)	2	Fecal-Oral	Immunization	Hand hygiene Universal precautions Seek medical attention if exposed See SD36 Policy 5209	School must contact Public Health Nurse directly
Hepatitis B (Viral)	2	Blood to blood contact..	Immunization paid for by SD36 for some employees – see Exposure Control Plan	See Exposure Control Plan See SD36 Policy 5209 Seek emergency medical attention immediately if exposed.	School must contact Public Health Nurse directly
Hepatitis C (Viral)	2	Blood to blood contact..		Universal Precautions Hand Hygiene See SD36 Policy 5209 Seek emergency medical attention immediately if exposed.	School must contact Public Health Nurse directly
Histoplasmosis	3	Aerosolization – dried bird or bat droppings, are disturbed and the infected aerosols are breathed in.	Prevent birds from nesting using wire mesh or other means.	Refer to Facilities Department Safe Work Procedure 4004	
HIV/AIDS	3	Direct contact through open wound / needle stick.		Hand Hygiene Universal Precautions See SD36 Policy 5209 See SD36 Regulation 5209.1 Seek emergency medical attention immediately if exposed	School must contact Public Health Nurse directly

NOTE: If 10% or more members of a school or site population are absent due to the same viral, bacterial, fungal or parasitic disease, the principal or site manager must notify their Public Health Nurse and the Health, Safety and Benefits Department.

Risk Group 2, 3, & 4 Hazardous Substances
Common Diseases caused by Human Pathogens

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Influenza (Viral) Risk Group 2 or 3, depending upon strain)	2,3	Direct & indirect - droplets – travel up to one meter and settle to ground – contact with surfaces.	Immunization	Flu Shot Hand Hygiene Universal Precautions	School must contact Public Health Nurse directly if more than 10% of whole school have symptoms.
Measles (Viral)	2	Airborne / Direct contact	Immunization	Do not attend school until contagious period over in accordance with Public Health; Hand Hygiene Template for parent letter available	School must contact Public Health Nurse directly
Meningitis (Viral; Bacterial) Caused by a variety of biological agents)	--	Direct contact with respiratory and throat secretions (ie coughing, kissing)	Immunization	Hand Hygiene	School must contact Public Health Nurse directly
Methicillin-Resistant Staphylococcus Aureus (MRSA) (Bacterial)	2	Direct person to person contact or contact with contaminated environmental surfaces		Follow Public Health guidelines. Hand Hygiene Universal Precautions	
Mumps (Viral)	2	Close contact with an infected person through breathing, coughing or sneezing, kissing, sharing foods. One can be infected by being as close as 3 feet.	Immunization	Follow Public Health guidelines. Hand Hygiene Universal Precautions Template for parent letter available	School must contact Public Health Nurse directly
Noroviruses (Norwalk) (Viral) – see Gastroenteritis (Viral)					
Rabies	3	Bites or scratches from rabid animals	Vaccinate pets against rabies.	Avoid contact with live or dead bats.	School must contact Public Health Nurse directly
Rubella (German Measles)	2	Close contact with an infected person's respiratory secretions.	Immunization	Pregnant women to consult physician immediately if they are exposed.	School must contact Public Health Nurse directly

NOTE: If 10% or more members of a school or site population are absent due to the same viral, bacterial, fungal or parasitic disease, the principal or site manager must notify their Public Health Nurse and the Health, Safety and Benefits Department.

**Risk Group 2, 3, & 4 Hazardous Substances
Common Diseases caused by Human Pathogens**

<u><i>Biological Agent</i></u>	<u><i>Risk Group</i></u>	<u><i>Route of Transmission</i></u>	<u><i>Engineered Controls</i></u>	<u><i>Administrative Controls</i></u>	<u><i>Reporting Procedures</i></u>
Salmonellosis (Bacterial)	2	Ingestion		Proper Food Handling Procedures Education & Training Hand Hygiene	School must contact Public Health Nurse directly. If the disease is suspected to be caused by a school/site food event, school must contact SD36 Food Services Manager.
Scabies (parasite)	Not applicable	Direct skin to skin contact.		Exclude child from school until the child completes one treatment. Template for parent letter available;	School must inform parents of children in direct contact with child with scabies.
Streptococcal Infections (Bacterial)	2	Direct Contact with mucus of infected persons; Indirect contact with contaminated surfaces.		Exclude child from school until 24 hours after starting antibiotics or until fever is gone. Hand Hygiene Universal Precautions Keep wounds covered	
Tuberculosis	3	Airborne via sneezing, coughing.		Hand Hygiene Universal Precautions	School must contact Public Health Nurse directly
Typhoid	3	Fecal-oral		Proper Food Handling Procedures Education & Training Hand Hygiene	School must contact Public Health Nurse directly If the disease is suspected to be caused by a school/site food event, school must contact SD36 Food Services Manager.
West Nile Virus (Viral)	3	Vector borne - Mosquito bites	Prevention of mosquito breeding around sites	Mosquito repellent Protective clothing	
Whooping Cough	1	Airborne via sneezing, coughing.		Vaccination	School must contact Public Health Nurse directly

NOTE: If 10% or more members of a school or site population are absent due to the same viral, bacterial, fungal or parasitic disease, the principal or site manager must notify their Public Health Nurse and the Health, Safety and Benefits Department.

Appendix A

PARENT LETTER TEMPLATES

[Chickenpox](#)

[Fifth Disease](#)

[Gastroenteritis Viral \(a.k.a. Norovirus\)](#)

[Hand, Foot and Mouth Disease](#)

[Measles](#)

[Mumps](#)

[Scabies](#)

Date: _____

Dear Parent/Guardian:

Re: Chickenpox

A student in your child's class has contracted Chickenpox. An information sheet from HealthLinkBC: **Facts about Chickenpox**, is attached to this letter. Please note the statement that "to reduce the spread of chickenpox, children with the illness should not attend daycare or school until five days after the rash first appears.

If you require further information about Chickenpox, please contact your local public health nurse at 604-_____.

Sincerely,

Principal

TEMPLATE

Date: _____

Dear Parent/Guardian:

Re: Fifth Disease (Parvovirus Infection)

A student in your child's class has contracted Fifth Disease. An information sheet from HealthLinkBC: **Fifth Disease (Parvovirus Infection)**, is attached to this letter. Please note the following statement from the document: "If you have fifth disease, by the time the rash appears you will no longer be contagious or able to spread the virus to others. Therefore, once the rash appears, there is no reason to stay away from work or school as long as you feel well."

If you require further information about Fifth Disease, please contact your local public health nurse at 604-_____.

Sincerely,

Principal

TEMPLATE

SAMPLE LETTER TO BE USED IN CONSULTATION WITH PUBLIC HEALTH IF THERE IS AN OUTBREAK OF GASTROENTERITIS (VIRAL) aka Norovirus

Date: _____

Dear Parent/Guardian:

Re: GASTROENTERITIS (VIRAL) aka Norovirus

Several students and staff in our school are sick with vomiting and diarrhea. Public Health is working with us at the school to help prevent more illness. At this time, it appears that the cause of the illness is a virus, most likely the *Norovirus* (Norwalk-like virus).

We are asking for your cooperation in following the advice given to us by Public Health:

1. Please encourage your children to wash their hands thoroughly with warm water and soap after using the toilet and prior to eating. Public Health recommends individual towels for family members or single-use paper towels to dry their hands until this outbreak is over.
2. If your child has 'stomach flu-like' symptoms, including upset stomach, vomiting and/or diarrhea, please keep your child home from school. If your child has vomiting and/or diarrhea, it is important that your child **does not return to school until at least 2 full days (48 hours) after the symptoms have ended and your child feels better.**
3. It is also recommended that your child does not attend any group events such as birthday parties, clubs or sports teams, etc. until at least 48 hours after symptoms have ended.

We have attached the information sheet HealthLinkBC: Norvirus (Stomach Flu). If you require further information, please contact your local public health nurse at 604-_____.

Sincerely,

Principal

Date: _____

Dear Parent/Guardian:

Re: Hand, Foot and Mouth Disease

A student in your child's class has contracted Hand, Foot and Mouth Disease. An information sheet from HealthLinkBC: **Hand, Foot and Mouth Disease**, is attached to this letter. Please note the following statement from the document: "Your child may continue to attend daycare (school) if her or she feels well enough to take part in activities, as the risk to other children is not great."

If you require further information about Hand, Foot and Mouth Disease, please contact your local public health nurse at 604-_____.

Sincerely,

Principal

TEMPLATE

Date: _____

Dear Parent/Guardian:

Re: Measles

A student in your child's class has contracted Measles. An information sheet from HealthLinkBC: **Measles**, is attached to this letter. Please note that children must be kept away from school, childcare and non-family contacts until 4 days after the rash appears.

If you require further information about Measles, please contact your local public health nurse at 604-_____.

Sincerely,

Principal

TEMPLATE

Date: _____

Dear Parent/Guardian:

Re: Mumps

A student in your child's class has contracted **Mumps**. An information sheet from HealthLinkBC: **Mumps**, is attached to this letter. Please note that children must stay away from school or childcare for 9 days after the onset of swelling.

If you require further information about Mumps, please contact your local public health nurse at 604-_____.

Sincerely,

Principal

TEMPLATE

Date: _____

Dear Parent/Guardian:

Re: Scabies

A student in your child's class has contracted **Scabies**. An information sheet from HealthLinkBC: **Scabies**, is attached to this letter. Please note the following statements from the document: "Scabies will not go away without treatment", and "children may return to school ... after they have been treated".

If you require further information about scabies, please contact your local public health nurse at 604-_____.

Sincerely,

Principal

TEMPLATE

Appendix B

Common Disease Information

Sources:

BC Centre for Disease Control
Canadian Centre for Occupational Health & Safety
HealthlinkBC

Diseases:

Chickenpox
Fifth Disease
Norovirus (Viral Gastroenteritis)
Hand, Foot and Mouth Disease
Hantavirus Pulmonary Syndrome
Hepatitis A
Hepatitis B
Hepatitis C
Histoplasmosis
HIV/AIDS
Influenza
Measles
Meningitis
Meningococcal Meningitis
Methicillin-Resistant Staphylococcus Aureus (MRSA)
Mumps
Rabies
Rubella
Salmonellosis
Scabies
Streptococcal Infections
Tuberculosis
Typhoid (Salmonella Typhi)
West Nile Virus
Whooping Cough

Facts about Chickenpox

What is chickenpox?

Chickenpox is an infection caused by the varicella-zoster virus. Chickenpox is usually a mild illness in children. Infection in teenagers, adults and those with weakened immune systems can be more severe.

Complications from chickenpox include pneumonia (lung infection), encephalitis (swelling of the brain), and bacterial infections of the skin from scratching. Encephalitis can lead to convulsions, deafness or brain damage. About 1 in every 3,000 adults with chickenpox will die from the infection. Unborn babies whose mothers get chickenpox in the middle of the pregnancy may have birth defects.

Is there a vaccine?

The chickenpox vaccine provides protection against chickenpox. For more information, see HealthLink BC File [#44b Chickenpox \(Varicella\) Vaccine](#).

How is chickenpox spread?

The virus spreads easily from person to person through the air when an infected person sneezes or coughs. It can also be spread through contact with the fluid from chickenpox blisters, or the saliva of a person who has chickenpox. A pregnant woman with chickenpox can give it to her baby before birth.

People with chickenpox can spread the virus to others from up to five days *before* and five days *after* the rash appears. They are most contagious from the day before and for the first few days after the rash appears.

To reduce the spread of chickenpox, children with the illness should not attend daycare or school until five days after the rash first appears.

It usually takes two to three weeks for a person to get sick after exposure to the virus. If your child is exposed to chickenpox, watch for signs of the illness for the next two to three weeks.

What are the symptoms?

At first, a person with chickenpox may have a mild fever, aches, pains, a headache and a loss of appetite. A few days later, a rash appears. Red spots appear first on the face and scalp, and then spread quickly down the body and to the arms and legs. The spots become very itchy and begin to look like blisters, filled with clear fluid. After another few days, the fluid becomes cloudy, the blisters break, and a crust or scab forms while the skin heals. During this time, new "crops" of spots appear, form blisters, and then crust over. Chickenpox usually lasts about 10 days.

Is there a treatment?

If you have been exposed to the chickenpox virus, your treatment will depend on your age, personal health, and severity of the illness. Most healthy children will only need to stay at home and rest.

Pregnant women, newborn infants, and people with weakened immune systems who have not been vaccinated or have not had chickenpox or shingles in the past should see a doctor **immediately** if they are exposed to, or get, chickenpox.

Prevention methods must be started as soon as possible to reduce the illness, and the risk for complications.

Prevention methods may include a medication called Acyclovir, an injection of Varicella Zoster Immune Globulin (VZIG or VariZIG) or the varicella vaccine.

Home Treatment

In most cases, chickenpox is a mild illness. If you have chickenpox, you should rest but do not need to stay in bed.

The most helpful things to do are those that make you or your child feel more comfortable. These include:

- Drink lots of liquids such as water, juice and soup, especially if there is a fever. If your baby is breastfeeding, feed your baby more often.
- For a fever, use acetaminophen (Tylenol[®], Tempra[®], Atasol[®]) to bring the fever down. ASA or Aspirin[®] should NOT be given to anyone under 20 years of age due to the risk of Reye Syndrome.
- Keep fingernails short and clean, and cover hands with socks at night to prevent scratching.
- Keep the skin cool to relieve itching. Dress lightly and avoid hot baths and showers. Ask your pharmacist or public health nurse about lotions that can reduce the itching.
- Prevent the spread of infection by using a household cleaner to wash any articles soiled with fluid from chickenpox blisters. Keep the infected person away from other family members who have not had chickenpox.

What are shingles?

The same virus that causes chickenpox causes shingles. For some people, the virus can become active again later in life and cause a painful rash called shingles.

Early symptoms of shingles include headaches, sensitivity to light, and flu-like symptoms without a fever. You may then feel itching, tingling, or extreme pain in the area where a rash develops several days later. It takes two to four weeks for the blisters to heal, although some scars may remain.

A person with shingles who feels well does not need to stay away from work or other activities, *as long as the rash can be completely covered*. A person who has not had chickenpox or the varicella vaccine can get the chickenpox virus from contact with the fluid from the shingles blisters.

For more HealthLink BC File topics, visit www.HealthLinkBC.ca/healthfiles/index.stm or your local public health unit.

Click on www.HealthLinkBC.ca or call **8-1-1** for non-emergency health information and services in B.C.

For deaf and hearing-impaired assistance, call 7-1-1 in B.C.

Translation services are available in more than 130 languages on request.



ImmunizeBC



BC Centre for Disease Control
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Fifth Disease (Parvovirus Infection)

What is fifth disease?

Fifth disease is an infection that, in children, often appears as a bright red rash on the face. It is sometimes called "slapped face" disease.

What causes fifth disease and how is it spread?

A virus called parvovirus B19 causes fifth disease.

A person with fifth disease can spread it to others by coughing or sneezing. Sometimes you can get the disease just by touching the saliva or nasal discharge (e.g. a wet hanky or tissue) of a person with the disease and then touching your own eyes or mouth. A pregnant woman who gets fifth disease can pass it to her unborn baby.

Who can get fifth disease?

You can get fifth disease at any age, although it is more common in young children.

Once you have had fifth disease, you are protected or immune from getting sick with the virus again.

About half of all adults have already had fifth disease, and therefore can't get it again. However, most preschoolers and school-age children have not had it. If the virus is around, children are more likely than adults to get it.

What are the symptoms of fifth disease?

Many of the symptoms, including fever, rash, cough or runny nose, also occur in illnesses caused by other viruses. About a quarter of all people who get fifth disease have no symptoms.

These are the most common signs of fifth disease that are different from other illnesses:

- About three weeks after being exposed to the virus, a red rash may appear on the face. This rash has a shape that makes it look like the cheeks have been slapped, while the area around the mouth looks pale. These signs are usually seen only in children.
- A red, spotty, lace-like rash may appear on the arms and may spread to the chest, back and thighs. The rash may fade away and then come back or get worse when the person is exposed to heat, such as a warm bath or direct sunlight. The rash can persist for several weeks. For some persons, the rash may not appear at all, or it may look different in adults.
- Adults may have pain in their joints. This may be the only symptom for infected adults.

Is fifth disease serious?

Fifth disease is usually mild. However, there are three groups of persons at risk for serious complications if they become infected:

- Persons with chronic hemolytic anemias (like sickle cell disease) can have life-threatening complications.
- Persons whose immune systems do not work well.
- Pregnant women - If a pregnant woman is infected, she can pass the infection on to the developing baby. When this happens in the first half of the pregnancy, there is a very small chance that the baby can die in the womb. Death in the womb occurs very rarely later in pregnancy.

Babies born to mothers who were infected while pregnant do NOT have an increased risk of birth defects.

What should I do if my child or I have been in contact with fifth disease?

If you have been exposed to someone with fifth disease you should watch for cold-like symptoms over the next 4 to 20 days.

If such symptoms occur, cover your mouth and nose when you cough or sneeze to prevent airborne droplets from spreading. Wash your hands often to avoid spreading the virus to others. After using tissues throw them directly into the garbage and wash your hands again. For more information see BC HealthFile [#85 Hand Washing for Parents and Kids](#).

If you are pregnant, or have anemia or a condition that lowers your resistance to infections, you should tell your doctor that you have been in contact with someone who has fifth disease.

What should I do if I get fifth disease?

If you think that your child has fifth disease, and you are in one of the groups at risk for complications, you should contact your doctor. Other illnesses caused by viruses, such as rubella or measles, can have similar symptoms. Sometimes a blood test may be needed to tell the difference.

General treatment

For generally healthy people, home treatment is usually the only care needed for fifth disease. Antibiotics are not used to treat fifth disease because a virus rather than bacteria causes the illness.

If you have fifth disease, by the time the rash appears you will no longer be contagious or able to spread the virus to others. Therefore, once the rash appears, there is no reason to stay away from work or school as long as you feel well.

Home treatment may include:

- Drinking plenty of liquids to prevent dehydration;
- Reducing fever and relieving headache and joint pain with acetaminophen (such as Tylenol®). **Note: Acetylsalicylic acid (ASA or Aspirin®) is NOT recommended for children.**
- Preventing scratching by trimming fingernails and wearing gloves at night to help prevent scratching during sleep;
- Reducing itchiness by applying a lotion or cream to the rash, and wearing loose-fitting cotton clothing. Ask your pharmacist or public health nurse about lotions and other remedies to take away the itching. Taking a non-prescription antihistamine may help if the itching is very bothersome. These medications can make children and adults sleepy.



BC Centre for Disease Control
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For more BC HealthFile topics visit www.bchealthguide.org/healthfiles/index.stm, or visit your local public health unit.

Call the BC NurseLine to speak to a registered nurse, available 24-hours every day:

- In Greater Vancouver, call 604-215-4700
- In BC, call toll-free 1-866-215-4700
- Deaf and hearing-impaired, call 1-866-889-4700
- Pharmacist available 5pm to 9am every day
- Translation services in over 130 languages upon request.

Visit BC HealthGuide OnLine – a world of health information you can trust at www.bchealthguide.org



Norovirus (Stomach Flu)

What is Norovirus?

Noroviruses are a group of viruses that cause acute gastroenteritis, also known as stomach flu or winter vomiting disease. This is not influenza or the flu, which is a respiratory infection caused by the influenza virus.

Stomach flu outbreaks occur in B.C. communities every year. Outbreaks of illness are common in nursing homes, daycare centres, schools, and children's camps and on cruise ships.

What are the symptoms?

Within a day or two of being exposed to a Norovirus, you may have an upset stomach and start vomiting, often followed by cramping, chills, fever and diarrhea. The illness usually begins suddenly and lasts only for one to three days. Sometimes complications occur if people lose too much fluid from vomiting and diarrhea and do not drink enough fluids. This is more likely to occur with babies, the elderly and persons with weakened immune systems. Severe illness is very rare, and hospital care is usually not required.

How does the virus spread?

Norovirus can be found in the vomit and diarrhea of people who are sick. When someone vomits, people nearby may be exposed to tiny droplets in the air.

The virus can be spread to the environment, including surfaces like countertops. The virus can survive for a long time on surfaces such as countertops or sink taps if not properly cleaned. People can become ill when they touch these surfaces and then place their hands in their mouth.

The virus can be spread among people if they do not wash their hands or if someone with this illness handles food, water or ice.

Is there a treatment?

Currently, medications are not usually used to treat Noroviruses. Persons infected with a Norovirus usually get better on their own within a few days.

Antibiotics should not be taken for Norovirus. Antibiotics only work to fight bacteria and not viruses.

It is important that you drink enough clear fluids, such as water, so you do not get dehydrated. You should also drink other fluids such as juices, clear soups, or oral rehydration fluids for vomiting or diarrhea.

See a doctor if diarrhea or vomiting lasts more than two or three days, or if dehydration is a concern. If three or more persons are ill at the same time, report this to your local public health unit.

How can the virus be prevented?

- There is no vaccine or medication that can prevent Noroviruses.
- The key to preventing the virus or reducing it from spreading is hand washing, especially after using the toilet, changing diapers or before eating or preparing food. Proper hand washing requires warm running water, soap and cleansing of the hands for about 30 seconds. For more information see [HealthLink BC File #85 Hand Washing for Parents and Kids](#).

- Bathrooms need special attention and should be disinfected with a bleach solution.
 - Any food that has been handled by a person with the virus, or exposed while a person vomited, should be thrown-out.
 - Dishes and utensils should be washed with hot water and detergent or in a dishwasher.
 - Laundry should also be washed with hot water and detergent.
 - People who are ill and handle food or those who provide care for others should stay away from work while they are sick and for two days after they are better. Even when diarrhea and vomiting have stopped, the virus can still be in the stool (bowel movement) for as long as two weeks. Be sure to wash hands carefully and often.
 - If someone is ill with a Norovirus, discourage visitors at home. It is best to wait for a couple days after everyone is better and the house is cleaned and disinfected.
 - When a family member is sick with vomiting or diarrhea, it is a good idea for that person to try to stay in a separate room and not be around others. Everyone in the family should wash their hands often with soap and water. Use different towels or paper towels for drying hands to help prevent people from getting sick.
- Use paper towels to soak up excess liquid, and put the paper towels and any solid matter directly into a plastic garbage bag.
 - Clean the soiled area with soap and hot water. The same cleaning cloth or sponge should not be used to clean other areas of the house as this may spread the virus.
 - Disinfect the area that has been washed with a freshly made bleach solution. Make a solution of bleach with 1/3 cup of bleach and 1 gallon of water, or 80 mL of bleach to 4 litres of water. Household cleaners other than bleach do not work for most of the viruses that cause vomiting and diarrhea.
 - Put all cleaning cloths and disposable gloves into a plastic garbage bag.
 - Wash your hands well using soap and warm water for at least 30 seconds. For more information see HealthLink BC File [#85 Hand Washing for Parents and Kids](#).



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How can I reduce the risk of getting infected from cleaning up vomit or diarrhea?

If you are cleaning up vomit or diarrhea, you can reduce the risk of getting infected by doing the following:

- Wear disposable gloves. Reusable rubber gloves may be used, but they should be washed after use.

For more HealthLink BC File topics, visit www.HealthLinkBC.ca/healthfiles/index.stm or your local public health unit.

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Hand, Foot and Mouth Disease

What is Hand, Foot and Mouth disease?

Hand, foot and mouth disease is caused by certain types of viruses. Children under 10 years of age get the disease most often. Most cases occur in the summer and early fall.

What are the symptoms?

The symptoms start 3 to 5 days after contact with an infected person. The first sign of infection may be a fever, sometimes with a runny nose or sore throat. The fever may rise as high as 40° C (104° F), but it is generally lower. The fever can last up to 7 days.

In addition, an infected person may have other symptoms. About 2 days after the fever starts, small painful blisters may develop on the inside of the mouth, on the tongue or on the gums. A day or 2 later, small red spots may appear on the palms of the hands and soles of the feet. These red spots may turn into blisters. The fever, spots, and blisters usually go away after about 7 to 10 days.

Not everyone who has hand, foot and mouth disease will get all of these symptoms. Sometimes a person can have the infection and have no symptoms.

How is it spread?

Once a person is infected and sick, he or she can be contagious and spread the virus for about 7 to 10 days. The virus is spread by coughing or direct contact with airborne droplets from the nose and throat. Hand, foot and mouth disease can also be spread for up to 3 weeks if there is oral (mouth) contact with feces (bowel movements). The virus stays for some time in the bowels of an infected person.

This disease spreads very easily in child care settings and other places where children are close together. Therefore, take extra care to wash hands and clean surfaces thoroughly after changing diapers and before serving or eating food around children and child care settings.

How can you prevent the disease?

Teach children to sneeze or cough into a tissue or their inner arm where the elbow flexes. This prevents the spread of airborne droplets. They should also wash their hands often to avoid spreading the virus to others. Encourage children to throw tissues directly in the garbage after use and to wash their hands again.

Good hygiene is extremely important. You or your child will be contagious during the course of the illness, usually about 7 to 10 days. It is possible you or your child may be contagious for several weeks after the blisters and sores have healed because the virus may remain in the feces.

Your child may continue to attend daycare if he or she feels well enough to take part in activities, as the risk to other children is not great.

Continue to practice careful hygiene for several weeks or months after your child feels better.

How is it treated?

When necessary, the fever from hand, foot and mouth disease can be reduced with acetaminophen (such as Tylenol®). Ask your family doctor the dose to use, or read the instructions on the package or bottle carefully. Do *not* give ASA (Aspirin®, acetylsalicylic acid) to a child or teenager due to the danger of Reye's syndrome. Antibiotics will *not* help treat or cure this disease.

Do not pop the blisters - they will heal better if left alone. Because the mouth sores can be painful, your child may not want to eat or drink. These sores can be treated with an ointment used for teething. You can place some ointment on your finger and gently apply to your child's sores. Wash your

hands before and after applying the ointment. Use these products in moderation. If swallowed frequently, a child's throat could become numb, and this could cause difficulty swallowing.

Give your child only cold, bland liquids such as milk or water. Do not give fizzy or tart drinks such as pop and fruit juice. These will sting. Give your child only bland, cool and soft foods like bread, noodles, or perhaps a peanut butter and jelly sandwich.

Remember, if hand, foot and mouth disease is suspected, encourage proper hygiene, frequent hand washing, and other basic cleanliness to prevent it from spreading to others.



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Hantavirus Pulmonary Syndrome (HPS)

What is Hantavirus Pulmonary Syndrome or HPS?

Hantavirus Pulmonary Syndrome, or HPS, is a severe illness that is caused by a virus called hantavirus. This rare disease was first identified in the southwestern United States in 1993. Although the virus has been present for a long time, it has been recognized recently.

HPS was first found in Canada in 1994, when 3 cases were reported in British Columbia. Since then about 50 more cases have been found, mostly in the western provinces of Manitoba, Saskatchewan, Alberta and British Columbia.

The disease is considered to be extremely rare – only about 400 cases have been reported in all of the United States and Canada.

What are the symptoms of HPS?

HPS begins as a “flu-like” illness. In the early stage of the disease, a person may have a fever, sore muscles, headaches, nausea, vomiting stomach and have shortness of breath. As the disease gets worse, fluid builds up in the lungs, making it harder to breathe. In North America, about 1 out of 3 people with HPS have died.

Is there a treatment for HPS?

Although there is no specific treatment, medication or cure, many of the symptoms and complications of HPS can be treated. Most patients are admitted to intensive care in a hospital. Some patients may be given anti-viral drugs.

How is it spread?

In Canada, the virus has been found only in wild mice, specifically the deer mouse found across North America. Hantavirus is mainly spread when mouse droppings, urine or nesting materials are disturbed, sending virus particles into the air where they can be breathed in. In rare cases, it may be spread through small breaks in the skin when handling a wild mouse, or by mouse bites.

Domestic pets are not believed to be a source of infection.

In North America, there is no evidence that the disease spreads from one person to another. Always wash your hands after touching any rodents or their droppings.

Who is exposed to HPS?

People who live in areas where the virus is present, and who come in close contact with the saliva, urine, droppings or nests of mice, may be at risk of catching the virus. However, the chances of this happening are extremely low. Rodent infestation in and around the home remains the main risk for contact with hantavirus.

What kind of activities put me at greatest risk?

High risk activities include: cleaning unused buildings, housecleaning, and working on construction, utility and pest control. Workers can be exposed in crawl spaces, under houses, or in vacant buildings that may have mice. Campers and hikers can also be exposed when they use infested trail shelters or camp in other deer mouse habitats.

The chance of being exposed to hantavirus is greatest when people work, play, or live in closed spaces where wild mice are living actively. However, many people who have contracted HPS reported that they had not seen mice or their droppings before becoming ill. Therefore, precautions should be taken even if you do not see mice or their droppings.

How can I protect myself?

The best way to prevent infection from hantavirus is to avoid contact with rodents and their droppings. The best way to prevent hantavirus infection is to control rodents in and around the home. Keep mice out of your home and learn how to clean up safely.

NOTE: You should contact your local public health office before you clean up the home of someone who has HPS.

Remove mice from your home

Use spring loaded traps to remove rodents from buildings. Dispose of them in sealed, double plastic garbage bags. Bury garbage bags in a hole 0.5-1m deep, burn them or deposit them in the trash according to local by-laws. Disinfect the traps with bleach and water solution (see below) after dead animals have been removed.

Stop mice from getting in your home

Reduce the amount of rodent shelter, such as thick bushes or wood piles, and food or garbage within 35 meters of your home. Block all holes around the walls, windows, doors and roof of your home.

Safely clean areas where mice have been

- During clean-up, wear an appropriate, well fitting filter mask, rubber gloves and goggles. These masks include NIOSH-approved 100 series filters, such as N100, P100, and R100 (formerly called HEPA filters), or a respirator with P100 cartridges. An N95 mask may also be used. A dust mask for insulating or painting is not the same as these specialized masks. Specialized masks are available at safety supply stores and some hardware and home building outlets. Your local public health unit or the Workers Compensation Board (WCB) can provide more information about mask operation, use and limitations.

- Prevent stirring up dust when you are cleaning up areas where mice have lived. This includes ventilating any enclosed area for 30 minutes and wetting down the area with household disinfectant before you start. Most general purpose disinfectants and household detergents are effective. Diluted bleach (one part bleach to 10 parts water) can also be used.

- Pour solution carefully onto debris to avoid disturbing any virus present – do not use a sprayer.
- Wipe up droppings, nesting materials and other debris with a paper towel and place in a plastic garbage bag. Avoid sweeping dry floors. Do not vacuum.
- Double bag the contents, seal the bags and bury, burn or place in the trash, according to local bylaws.
 - Clean floors, carpets, clothing and bedding, and disinfect counter-tops, cabinets and drawers that have been in contact with mice.
 - Wash rubber gloves with disinfectant or soap and water *before removing them*. Wash your hands with soap and water after removing gloves.

Avoid mice when hiking or camping

Try not to disturb rodent burrows. Don't use cabins where there are mouse or rat droppings. Keep your food in rodent-proof containers.

For more information on how to control rats and mice, see HealthLink BC File [#37 Getting Rid of Rats and Mice](#).

For more HealthLink BC File topics, visit www.HealthLinkBC.ca/healthfiles/index.stm or your local public health unit.

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[Print page](#)

[Close window](#)

- [Definition](#)
- [Symptoms](#)
- [Causes](#)
- [Complications](#)

- [Tests and Diagnosis](#)
- [Treatment and Drugs](#)
- [Coping and Support](#)
- [Prevention](#)

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Definition

Hepatitis A is a preventable disease of the liver caused by the hepatitis A virus (HAV), which can last from a few weeks to several months. It does not lead to chronic infection.

-

Symptoms

After the hepatitis A virus enters your body, it can take from 15 to 50 days before you feel sick. The symptoms can be so mild that people may not be aware they have been infected with hepatitis A. Other people get sick with some of the following symptoms:

- Loss of appetite
- Fever
- Dark urine
- A tired feeling (like you have the flu)
- Vomiting
- Clay-coloured bowel movements
- A sore feeling in the upper-right stomach area
- Yellowing of the skin and eyeballs

The symptoms can last from 1 - 2 weeks to several months. Most people recover completely and then are immune to re-infection. Death can occur, but is rare. The symptoms can be more severe in people who already have hepatitis C.

-

Causes

The hepatitis A virus is found in the bowel movements of an infected person. Even if a person does not feel ill, they are still able to spread the hepatitis A virus to others.

Hepatitis A can be caught by:

Person-to-person contact :

- Eating food that has been touched by contaminated hands
- People who go to the bathroom and then don't wash their hands properly can pass the virus to others through food preparation or other hand/mouth contacts
- When a parent or caregiver does not properly wash his or her hands after changing diapers or cleaning up the stool of an infected person
- Sexual activities where feces may enter the mouth
- Through the use of contaminated illicit drugs

Contaminated food or water:

- Eating raw or under-cooked shellfish such as crabs, clams, oysters or mussels that have been exposed to contaminated sewage
- Eating contaminated fruits or vegetables
- Drinking water or ice contaminated with the virus
- People traveling to areas of developing countries where hepatitis A is common and there are poor sanitary conditions or poor personal hygiene, are more likely to come into contact with contaminated food and water

-

Complications

In most cases of hepatitis A, the liver heals completely with no lasting damage. Older adults and people with other medical conditions may take longer to recover and can have a more serious course of the disease.

-

Tests and Diagnosis

A blood test is necessary to diagnose hepatitis A.

-

Treatment and Drugs

If you have hepatitis A:

- Get lots of rest
- Drink plenty of fluids

- If you feel sick to your stomach or have a poor appetite, it might help to eat smaller meals more often
- Avoid alcohol, drinking alcohol when you are ill may further inflame your liver
- Avoid any kind of hard work or exercise

Your family doctor can give you specific directions or medical treatment that you need.

-

Coping and Support

If you think that you have hepatitis A, contact your [local Health Unit](#) or your family doctor for further information.

Prevention

Protect yourself against hepatitis A by always washing your hands with soap and water after using the bathroom, before preparing meals, and before eating.

Protect Yourself:

- [Get vaccinated](#)
- Be aware when you [travel](#)
- Ensure proper hygiene and take precautions with food and drink
- Avoid peeled fruit and raw vegetables, salads, dairy products with unpasteurized milk, and raw or undercooked meat, fish and shellfish and any food sold by street vendors.
- Swim only in chlorinated pools
- Do not share food, drinks or cigarettes

Vaccines

A [vaccine](#) is available which protects people against hepatitis A. It is given as a series of two shots given at least six months apart. The vaccine provides excellent protection against hepatitis A in all age groups except infants less than six months of age. For infant immunization information refer to [Infant Immunization](#).

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Overview

[Print page](#)

[Close window](#)

- [Definition](#)
- [Symptoms](#)
- [Causes](#)
- [Complications](#)

- [Tests and Diagnosis](#)
- [Treatment and Drugs](#)
- [Coping and Support](#)
- [Prevention](#)

Definition

Hepatitis B is a preventable liver disease caused by the hepatitis B virus (HBV). It ranges in severity from a mild illness, lasting a few weeks (acute), to a serious long-term (chronic) illness that can lead to liver disease or liver cancer.

Symptoms

About ninety per cent of adults who become infected with hepatitis B completely recover from the infection after approximately six months. During this time of acute infection, people can either be symptom free or get sick with signs and symptoms such as:

- Jaundice (i.e., skin and eyes turn yellow)
- Pale stools
- Dark urine
- Fatigue
- Tenderness in the upper right side of the stomach area
- Loss of appetite

About eight to ten per cent of adults who acquire hepatitis B remain chronically infected (i.e., they do not clear the virus on their own). Individuals who are chronically infected can remain symptom free for years. However, the ongoing liver inflammation associated with chronic hepatitis B can put one at increased risk for complications such as cirrhosis (i.e. severe liver scarring) and/or liver cancer.

Whether you have signs of illness or not, if you have the virus in your body you can pass it on to others.

-

Causes

Hepatitis B is spread by direct contact with infectious blood, semen and body fluids. A person can become infected with the hepatitis B virus from the following:

- Sex with an infected person
- Sharing contaminated needles to inject drugs
- An infected mother to her newborn during birth
 - The hepatitis B infection can be prevented in almost all newborns by giving the baby Hepatitis B Immune Globulin and hepatitis B vaccine at birth

Hepatitis B is NOT spread by:

- Sneezing
- Coughing
- Hugging
- Using the same dishes or cutlery as an infected person

-

Complications

Chronic hepatitis B can eventually lead to serious liver diseases such as cirrhosis and liver cancer. Having had hepatitis B infection as an infant or child gives you a greater chance of developing these complications as an adult.

Hepatitis B puts you at risk of acute liver failure — a condition in which all the vital functions of the liver shut down. When that occurs, a liver transplant is necessary to sustain life.

A person chronically infected with hepatitis B is also susceptible to being infected with another viral hepatitis — hepatitis D. You can't become infected with hepatitis D unless you're already infected with hepatitis B.

-

Tests and Diagnosis

A blood test is necessary to diagnose hepatitis B. There are several tests used in the detection and management of hepatitis B. Initially the three blood tests that will be performed are:

- Hepatitis B surface antigen (HBsAg)

Determines if you are infected (acute or chronic infection)

- Antibody to HBsAg (Anti-HBs)

Determines if you have immunity to HBV either through a past cleared infection or hepatitis B vaccination

- Antibody to core antigen (Anti-HBc)

Determines if you have been previously infected with HBV (not present after HBV immunization)

It is important to note that these are not the only tests for hepatitis B. There are other tests that may be performed for monitoring and treatment.

-

Treatment and Drugs

Fortunately, there is a vaccine that provides protection against hepatitis B. The vaccine is highly recommended as it is 95 per cent effective in preventing hepatitis B infection and its chronic consequences.

The majority of younger British Columbians are now immune to hepatitis B due to the addition of the universal Grade Six immunization program that has been in effect since 1992 and the universal infant vaccine program since 2001.

If you have not received the vaccine and are susceptible to infection, talk to your health care provider about getting vaccinated

Treatment for chronic HBV.

The treatments for hepatitis B can suppress the infection but not cure it. There are drugs that interfere with viral replication or improve the immune system's response to the infection. The goal of treatment is to reduce the risk of serious complications such as cirrhosis and liver cancer. There are several new therapies in development which are expected to improve the management of hepatitis B in the future. A discussion with a health care provider specializing in viral hepatitis is necessary to inform you of the various therapeutic options.

-

Coping and Support

If you have think you may have recently been exposed to the hepatitis B virus, contact your public health unit or doctor as soon as possible. You may be eligible for hepatitis B

vaccine and they may be able to offer you a product that offers additional protection against the hepatitis B virus.

Prevention

-

Protect Yourself:

- Get vaccinated
- Always use clean needles and injecting equipment
- A free vaccination for hepatitis B is provided by your local health unit if you:
 - Are a sexual partner of someone who has hepatitis B
 - Are a sexually active homosexual or bisexual male
 - Inject drugs or are a sexual partner of a needle drug user
 - Have many sexual partners or have a recent history of a sexually transmitted disease
 - Have hepatitis C

If you want to be vaccinated but are not included in the groups who get free vaccine, you can buy the vaccine through a travel clinic, your doctor or pharmacy.

For First Nations

- [A Guide to Wise Practices for HIV/AIDS Education and Prevention Programs](#)
- [All Nation's Hope](#)
- [Anishnawbe Health Toronto](#)
- [Canadian Aboriginal AIDS Network](#)
- [Chee Mamuk Aboriginal Program](#)
- [First Nations, Inuit and Aboriginal Health - Health Canada](#)
- [Guide to Aboriginal Organizations & Services](#)
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- [Pauktuutit](#)
- [Wabano Centre for Aboriginal Health](#)

For Youth

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- [Options for Sexual Health](#)
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Overview

[Print page](#)

[Close window](#)

- [Definition](#)
- [Symptoms](#)
- [Causes](#)
- [Complications](#)

- [Tests and Diagnosis](#)
- [Treatment and Drugs](#)
- [Coping and Support](#)
- [Prevention](#)

-

Definition

Hepatitis C is a preventable disease of the liver caused by the hepatitis C virus (HCV). Hepatitis C was discovered in the 1980s when it became apparent that there was a new virus causing liver damage. It was known as non-A non-B hepatitis until it was properly identified in 1989.

-

Symptoms

Hepatitis C can be categorised into two stages, firstly an acute infection (following initial infection) and secondly a chronic infection. The acute stage refers to the first 6 months of infection and does not necessarily mean there are any noticeable symptoms. Since symptoms are commonly absent many people are unaware that they have hepatitis C until some time after they have been infected.

Symptoms of acute hepatitis C infection can include:

- Fever
- Tiredness
- Jaundice (yellow skin or eyes)
- Abdominal pain
- Dark urine
- Loss of appetite
- Nausea (sick to your stomach)

People may develop a chronic (long-term) infection and experience long-term health concerns that are difficult to diagnose (for example, tiredness, lack of energy, or digestive problems). It is important to recognise that hepatitis C can cause a variety of symptoms that are highly variable – people with chronic hepatitis C can feel fine and have no symptoms, however others will suffer from quite severe symptoms.

-

Causes

The virus is usually spread by direct contact with the blood of an infected person. This happens most often by:

- Sharing drug snorting or injection equipment such as needles and syringes
- Accidentally poking yourself with a used needle and syringe
- Having received a transfusion of blood or blood product in a country where the blood supply is not tested for hepatitis C.
 - In Canada, this applies only to transfusions before 1990. As of June 1990 all blood and blood products have been screened for the hepatitis C virus.

Other situations where blood-to-blood contact from a hepatitis C infected person can occur but the risk is much lower include:

- Sharing toothbrushes, dental floss, razors, nail files, or other items which could have tiny amounts of blood on them
- Skin-piercing procedures such as tattoos, body-piercing, acupuncture or electrolysis if the equipment is not sterile
- Sexual intercourse
- An infected mother passing it to her newborn infant. Whether breast milk can transmit the virus is not yet known.

How is Hepatitis C NOT spread?

Hepatitis C is NOT known to be spread by:

- Coughing or sneezing
- Friendly contact such as hugging and kissing
- Using the same dishes or cutlery
- Swimming in a treated pool when you have cuts, scrapes or are menstruating
- Being bitten or stung by an insect which then bites or stings someone else
- Skin contact by others with your body fluids (such as saliva, urine, faeces or vomit)

-

Complications

Chronic infection with the hepatitis C virus is associated with a wide spectrum of liver disease ranging from minor inflammation to life threatening, decompensated cirrhosis.

-

Tests and Diagnosis

The process of getting a diagnosis involves 2 blood tests.

- A hepatitis C antibody test is the first test. This is to determine whether you have ever been exposed to the hepatitis C virus by testing for the presence of antibodies to the virus generated by your immune system.
- If an antibody test is positive the next test is to check if the virus is still present by having a 'qualitative' PCR test (polymerase chain reaction). The PCR test determines whether you are currently infected by detecting active hepatitis C virus replication in the blood.

-

Treatment and Drugs

People who test positive for hepatitis C should have regular blood tests to see how their liver is functioning. They may also be referred to a specialist for further testing and assessment.

Some people with hepatitis C may be offered treatment with anti-viral drugs, such as interferon. In rare instances those with advanced liver damage from hepatitis C require liver transplantation.

-

Coping and Support

If you think that you may have hepatitis C, contact your local health unit or your family doctor for further information.

The [Hepatitis C Council of BC](#) can connect you with local support groups in your area.

Prevention

Currently there is no vaccine available for hepatitis C.

For people who are infected with hepatitis C, it is recommended that you get vaccinated against hepatitis A, hepatitis B, and pneumococcal disease. These are given free to people infected with hepatitis C. You can get these shots from your local health unit or family doctor.

NOTE: Pregnant women should discuss vaccination with their public health nurse or family doctor before getting vaccinated

For First Nations

- [Aboriginal Organizations & Services in BC](#)
- [Aboriginal Nurses Association of Canada](#)
- [All Nations Hope](#)
- [Anishnawbe Health Toronto](#)
- [Canadian Aboriginal AIDS Network](#)
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- [CATIE - Hepatitis C Info](#)
- [Hep C and Me](#)
- [Hepatitis C Council of BC](#)
- [Hep C Youth Education Project](#)
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HIV/AIDS

What is HIV/AIDS?

Acquired Immunodeficiency Syndrome (AIDS) is a very serious disease. You can get it from the Human Immunodeficiency Virus (HIV). HIV harms your immune system, compromising its ability to protect you against infections. Since people with AIDS do not have this protection, they can get many different infections and cancers.

How can I get HIV/AIDS?

You can get AIDS only if the HIV virus gets into your body. The virus can be carried into your body in semen, fluid from the vagina, or blood. People can get the HIV infection when they have sex or when they share drug-use equipment such as needles or syringes. An infected mother can pass HIV on to her baby during pregnancy, delivery, or breastfeeding.

How can I prevent HIV/AIDS?

You can get HIV/AIDS from other infected people through contact with their blood or body fluids. Most HIV infections happen when you have sex or share injection needles with someone who is infected. It is also possible to get HIV from dirty tattoo equipment, or by sharing a razor or a toothbrush with someone who has HIV. You can **not** get HIV from touching, shaking hands, or hugging a person who has HIV or AIDS. You can **not** get HIV from pets or biting insects such as mosquitoes.

Some people think they may get HIV if they donate blood. This is not true. The nurse who takes your blood uses a new needle for each person. There is no contact with anyone else's blood when you give blood.

The blood that people give is always checked for HIV, so there is a very low risk of getting HIV from the blood given in a hospital.

Is kissing safe?

You can not get HIV or AIDS from kissing. Deep kissing or "French kissing" is safe.

How can I tell if I have HIV infection?

There is a blood test for HIV called the HIV antibody test. Persons testing for HIV can choose whether to use their names or initials for the test.

If your HIV test result is positive, it means you are infected with HIV.

If the test result is negative, it probably means you do not have HIV antibodies, but these can take three to six months to show up. If this amount of time has not passed prior to your test, your test can be negative but you could still have the virus. If there is a chance you have been infected recently, the only way to be sure you do not have HIV is to have a second test three months after your first test.

AIDS is the last stage of the HIV infection. People who have AIDS may become very ill and die from the disease or its complications. But you can protect yourself against HIV and AIDS.

How can I protect myself against HIV/AIDS?

- Use a new condom every time you have sex, even oral sex.
- Having many sex partners increases your risk.
- Do **not** share injection needles, syringes or other injection equipment.
- Do **not** share razors or toothbrushes.
- Make sure that all tattoo equipment is sterile.

If you take risks having sex, you can get infections, and you can pass on the infections to people who have sex with you *and* to their unborn babies. Protect yourself and others by having safe sex.

What should I do if you think I may have HIV or AIDS?

If you think you have symptoms, or if you took a risk having sex or using drugs, see your doctor or go to a STI (sexually transmitted infection) clinic. You may need to have a blood test. If your blood test is positive, it means you have been infected with HIV, and you could pass it on to others. It does not mean that you have AIDS or that you will get it.

What is the treatment for HIV/AIDS?

There is no cure for HIV infection or AIDS. The virus stays in your body. However, doctors have effective medicines to treat HIV and its complications. Getting early treatment can slow down the virus and help you stay healthy.

Inform your partner(s)

Since HIV is a reportable disease in British Columbia, it is important that your sex partner(s) and anyone you have shared needles with be notified if you have HIV. They will have to decide if they want to be tested for HIV infection.

You may want to tell them yourself. If you cannot tell them, then talk to the doctor or nurse. They can help to notify partners in a confidential manner, so you do not need to reveal your test results to others.



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[Home](#) ▶ [OSH Answers](#) ▶ [Biological Hazards](#)
▶ [Diseases, Disorders & Injuries](#)

Histoplasmosis

[What is histoplasmosis and what causes it?](#)

[How does the infection develop?](#)

[How common is histoplasmosis in Canada?](#)

[How is histoplasmosis recognized?](#)

[How is histoplasmosis treated?](#)

[What occupations are at risk?](#)

[How can we prevent histoplasmosis?](#)

What is histoplasmosis and what causes it?

Histoplasmosis is an infectious disease of the lungs caused by a fungus called *Histoplasma capsulatum*. The infection sometimes can spread to other parts of the body.

This *Histoplasma* organism thrives in moderate temperatures and moist environments. Droppings from chickens, pigeons, starlings, blackbirds, and bats support its growth. Birds are not infected with it because of their high body temperatures, but they do carry it on their feathers. Bats can be infected because they have a lower body temperature than birds and can excrete the organism in their droppings.

To multiply, *Histoplasma capsulatum* produces small spores called conidia. The conidia of *Histoplasma capsulatum* are only two millionths of a meter (microns, μm) in diameter. When these conidia are inhaled, they are small enough that they enter the lungs and start an infection. Many of these infections are easily overlooked because they either produce mild symptoms or none at all. However, histoplasmosis can be severe and produce an illness similar to tuberculosis.

How does the infection develop?

When a person breathes in the conidia (spores) of *Histoplasma capsulatum*, the lungs' defense mechanisms attempt to neutralize them. Not all the conidia are neutralized. The ones that avoid the defense start an infection. The symptoms of the infection appear within 5 to 18 days after exposure, most commonly in 10 days.

There are five different forms of infection, as follows:

- **Asymptomatic** is recognized only by performing medical laboratory tests as the victim does not show any symptoms and is unaware of the infection.
- **Acute disseminated** does not last long (i.e., acute) but it involves other organs outside the lungs (i.e., disseminated). It is usually confined to infants and young children and is marked by fever, cough, exhaustion and enlargement of the liver and spleen.
- **Acute benign respiratory** is produced by a heavy exposure to conidia. It is marked by weakness, fever, chest pains, and cough. The severity of the symptoms depends upon the magnitude of the exposure.
- **Chronic disseminated** is of long duration (chronic) and it involves other organs

outside of the lungs. It occurs in people with a reduced capacity to fight disease, for example, in patients with leukemia (cancer of the system producing blood cells) and in persons being treated with drugs that suppress the body's defense mechanisms against diseases. The chronic disseminated form is marked by fever, anemia, hepatitis, pneumonia, inflammation of the lining of the heart cavity, meningitis, and ulcers of the mouth, tongue, nose and larynx.

- **Chronic pulmonary** occurs in persons with pre-existing lung diseases such as emphysema. It resembles tuberculosis and is more common in males over 40 years of age.

How common is histoplasmosis in Canada?

The absolute number of cases of histoplasmosis in Canada at this time is not known. In the St. Lawrence River Valley, where the infection may occur frequently, 20-30 percent of the population test positive. It is estimated that over 50 million people have been infected in North America with about 500,000 persons testing positive each year.

How is histoplasmosis recognized?

Confirmation of a histoplasmosis diagnosis often requires laboratory examinations which identify *Histoplasma capsulatum* in sputum or lung biopsy. Blood and skin tests, and x-rays may be performed but they are only of secondary value in diagnosis.

How is histoplasmosis treated?

Most patients who develop histoplasmosis do not require treatment. Some may only require supportive treatment that relieves the symptoms of the disease. Severe symptoms with a large involvement of the lungs require treatment with specific antifungal drugs.

What occupations are at risk?

Persons whose occupations involve contact with the soil, in particular soil enriched with bird and bat droppings, are at high risk of acquiring infection. They include:

- farmers and poultry keepers, especially when cleaning silos, chicken coops, pigeon roosts and bat-infested lofts
- gardeners and horticulturists using poultry manure as fertilizer
- construction and other workers in earth-moving operations
- workers in road construction, tree-clearing or landscaping
- workers clearing or dismantling contaminated buildings
- workers who monitor bird populations
- workers who have contact with bats or bat caves

Others who may be at risk include archaeologists, geologists and medical laboratory technicians who handle cultures of the organism.

How can we prevent histoplasmosis?

Prevention of histoplasmosis relies on avoiding exposure to dust in a contaminated

environment. Before anyone cleans chicken coops or other contaminated soil, spraying with water is advisable to reduce dust.

Persons working in contaminated areas should use protective clothing such as gloves and coveralls. They should also use a respirator equipped with a high efficiency particulate air (HEPA) filter that is capable of filtering particles down to two microns in size. For major clean up operations of prolonged exposure, a powered air purifying or supplied air respirator may be necessary.

Canadian Centre for Occupational Health and Safety**www.ccohs.ca**

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Influenza

<p>What is it?</p>	<p>Influenza (the flu) is a respiratory illness caused by Influenza A and Influenza B viruses. Influenza season in Canada is usually November through April.</p> <p>Signs and symptoms of influenza may include:</p> <ul style="list-style-type: none"> ➤ Fever ➤ Cough, sneezing, runny nose ➤ Headache ➤ Body aches and pain ➤ Exhaustion ➤ Sore throat ➤ Nausea, vomiting, and diarrhea are more common in children than adults. <p>Influenza is most serious for babies less than 2 years of age, adults over 65 years of age, and people with chronic illnesses.</p>
<p>How is it spread?</p>	<ul style="list-style-type: none"> ➤ Breathing in droplets containing influenza virus that have been coughed or sneezed into the air by an infected person. ➤ Direct contact with the hands of an infected person (e.g., shaking hands, holding hands). ➤ Contact with an object contaminated with the influenza virus (e.g., toys, furniture, doorknob, taps, computer keyboard, telephone, shopping cart handle).  <p>Influenza viruses can live for several hours on hard surfaces. Caregivers may get the flu virus on their hands by assisting a child to use a tissue and then spread it to other children by touching them.</p>
<p>Incubation period</p>	<p>Usually 1 – 4 days from contact with an infected person</p>
<p>When is the person contagious?</p>	<p>Usually from 1 day before to 5 days after symptoms develop (up to 7 days after symptoms develop for young children)</p>
<p>How to prevent spread of the illness to other children.</p> 	<p>Child may attend school or child care if they feel well enough to take part in activities.</p> <p>Carefully dispose of (or clean, if applicable) articles contaminated with nose and throat secretions of an infected child.</p> <p>For more information, refer to Routine Practices.</p> <p><i>Handwashing is the best way to stop the spread of infections.</i></p>



Influenza vaccine is recommended and provided free for:

- ***children 6 to 23 months of age***
- ***household contacts and those providing regular child care to children 0 to 23 months of age***
- ***children and adults with a health condition that places them at high risk for influenza.***

Measles

What is measles?

Measles (red measles) is a severe illness caused by the measles virus.

Measles can cause serious illness such as inflammation of the brain (encephalitis), which can lead to convulsions, deafness, or brain damage. One person in every 3,000 with measles can die from complications. Complications and death are most common in infants less than 12 months of age and in adults. Complications of measles can include:

- Ear infections - 7 to 9 in every 100 cases of measles
- Diarrhea - 6 in 100 cases
- Pneumonia - 1 to 6 in 100 cases
- Hospital stay - 1 in 100 cases
- Encephalitis - 1 in every 1,000 cases.

Because of vaccination, measles is now a rare disease in Canada. Most cases occur in unimmunized people, including visitors to Canada, who have traveled overseas.

Measles Vaccine

The measles, mumps, and rubella (MMR) vaccine provides protection against measles and is part of the routine childhood vaccine program. For more information, see [HealthLink BC File #14a Measles, Mumps, Rubella \(MMR\) Vaccine](#).

How is measles spread?

Measles is very contagious and spreads easily. When an infected person breathes, coughs, or sneezes, the virus spreads through the air. The measles virus can survive in small droplets in the air for several hours. The airborne spread of measles virus makes the disease very contagious.

What are the symptoms?

Symptoms of measles include fever, cough, runny nose, and red and inflamed eyes (often sensitive to light). These are followed by a rash, which starts first on the face and neck, and spreads to the chest, arms and legs, and lasts at least 3 days. A doctor may notice Koplik spots inside your mouth. These spots look like small grains of sand on a red base.

Symptoms can start as soon as 8 days after the person is infected with the measles virus. A person with measles can spread the virus to others from five days *before* to four days *after* their rash first appears.

Have you been exposed to measles?

If you have been exposed to the measles virus and have not been immunized, you can get vaccinated with MMR vaccine to prevent the illness. You need to get the vaccine within 72 hours after exposure in

order to be protected against the measles virus.

If the vaccine cannot be given in time or you have reasons not to receive this vaccine, you can get Immune Globulin (IG) for protection. IG is a sterile solution of naturally produced antibodies taken from donated human blood. Antibodies are proteins that a person's immune system makes to fight germs. IG can provide immediate and short-term protection against measles or help make it less severe. IG is recommended for the following people who have been exposed to measles and who should not receive MMR vaccine.

- Infants less than six months of age
- Pregnant women who have not had measles or measles vaccine
- Some people with weakened immune systems.

If You Think You Have Measles

If you have fever and a rash and think you may have measles, have yourself examined by a doctor. It is best to call ahead so that you can be seen quickly and without infecting other people. This infection can spread to susceptible people quickly in places like waiting rooms and emergency rooms. The doctor or triage nurse can make sure that you are taken into a closed area for an examination and attend the clinic at a time when the waiting room is empty. Bring your immunization record with you. A physical examination, blood test, and throat swab or urine sample will be collected to make the diagnosis of measles.

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Meningitis

<p>What is it?</p>	<p>Meningitis is an inflammation of the membranes that surround the brain and spinal cord. Meningitis can be caused by a bacteria or a virus. Diagnosis of meningitis is made by a primary health care provider.</p> <p>Bacteria that cause meningitis include:</p> <ul style="list-style-type: none"> • <i>Haemophilus influenzae type B</i> (Hib) (see Hib) • <i>Neisseria meningitides</i> (see Meningococcal Meningitis) • <i>Streptococcus pneumoniae</i> • <i>Group B Streptococcus</i> <p>About 90% of cases of viral meningitis are caused by members of a group of viruses known as enteroviruses, such as coxsackieviruses and echoviruses. Polioviruses, mumps virus, and herpes simplex virus can also cause meningitis.</p> <p>Signs and symptoms of meningitis may include:</p> <ul style="list-style-type: none"> ➤ High fever, headache, and stiff neck are common in anyone over the age of 2 years. ➤ Infants < 2 years of age may appear slow or inactive, be irritable, vomit, or be eating poorly. ➤ Other symptoms may include nausea, vomiting, discomfort looking into bright lights, confusion, and sleepiness. ➤ Seizures may occur as illness progresses.
<p>How is it spread?</p>	<p><u>Viral</u> meningitis is spread through direct contact with the nose and throat secretions of an infected person:</p> <ul style="list-style-type: none"> ➤ Direct contact with the hands of an infected person (e.g., holding hands or shaking hands) ➤ Direct contact with an object contaminated with the virus  <p>The virus is also found in the stool of an infected person. The virus may be spread through direct contact with infected stool or contact with an object contaminated with virus from the stool.</p>
<p>Incubation period</p>	<p>For enteroviruses: about 3 – 7 days</p>
<p>When is the person contagious?</p>	<p>For enteroviruses: from about 3 days after infection to 10 days after developing symptoms</p>
<p>How to prevent spread of the illness to other children.</p> 	<p>Child can attend school or child care facility if they feel well enough to take part in activities.</p> <p>Contact the local public health unit.</p> <p>For more information, refer to Routine Practices.</p> <p><i>Handwashing is the best way to stop the spread of infections.</i></p>

Meningococcal Meningitis

<p>What is it?</p>	<p>Meningococcal meningitis is an infection of the lining of the brain caused by the bacteria, <i>Neisseria meningitidis</i>. It can cause serious illness and death. The case fatality rate is 8 – 15%. The bacteria that cause meningitis can be found in the nose and throat of 5% to 10% of people at any time. Less than 1% of infected people will develop invasive meningococcal disease. Meningococcal bacteria also cause septicemia, pneumonia, and conjunctivitis.</p> <p>Symptoms of meningococcal meningitis occur suddenly and may include:</p> <ul style="list-style-type: none"> ➤ Fever ➤ Intense headache ➤ Nausea and often vomiting ➤ Bulging fontanelle (soft spot) in infants ➤ Stiff neck ➤ Stiff back in older children ➤ Pinpoint rash <p>Diagnosis is confirmed with a test of blood and cerebrospinal fluid (CSF).</p>
<p>How is it spread?</p>	<p>Direct contact with the nose and throat secretions of an infected person</p> <ul style="list-style-type: none"> ➤ Kissing ➤ Sharing anything that is put in the mouth (e.g., food, drinks, baby bottles, soothers, sippy cups, lipstick, water bottles, mouth guards used for sports, or mouthpieces of musical instruments) ➤ Breathing air contaminated by the bacteria when an infected person has coughed or sneezed 
<p>Incubation period</p>	<p>Range is 2 – 10 days (usually 3 – 4 days) from contact with an infected person to onset of fever</p>
<p>When is the person contagious?</p>	<p>From 7 days prior to the onset of symptoms until 24 hours after antibiotics are started</p>
<p>How to prevent spread of the illness to other children.</p> 	<p>Exclude child from school or child care until 24 hours after antibiotics are started.</p> <p>Contact the local public health unit. A child diagnosed with meningococcal meningitis will be hospitalized and treated with antibiotics. Household and other close contacts (including children and staff in child care and preschool facilities) will be offered antibiotics. For some types of meningococcal meningitis, they will also be offered vaccine. Antibiotics are usually not recommended for casual contacts (e.g., school or classroom contacts or transportation and workplace contacts).</p> <p>For more information, refer to Routine Practices.</p> <p><i>Handwashing is the best way to stop the spread of infections.</i></p>



Vaccine to prevent meningococcal type C infection is part of the routine immunization schedule for all children at 2 and 12 months of age. There is a vaccine to prevent other types of meningococcal infection available for people with a compromised immune system or in an outbreak situation.

Methicillin-Resistant *Staphylococcus Aureus* (MRSA)

<p>What is it?</p>	<p>MRSA is an infection with <i>Staphylococcus aureus</i> bacteria that have become resistant to certain antibiotics, including methicillin, penicillin, and amoxicillin.</p> <p>Infections with <i>Staphylococcus aureus</i> (staph infections) are relatively common and usually harmless. Staph infections have often been treated with antibiotics in the penicillin family. Because these antibiotics have been used frequently, some staph bacteria have changed so that they can survive even when these antibiotics are present. These types of staph bacteria are referred to as methicillin-resistant staph aureus, (MRSA).</p> <p>There are other types of antibiotics that can be used to treat MRSA infections.</p> <p>Signs and symptoms of a staph infection or MRSA may include:</p> <ul style="list-style-type: none"> ➤ Red, painful bumps under the skin (i.e., boils or abscesses) ➤ Sores may be painful and may contain pus or may be covered with a honey colored crust ➤ Sometimes, the sores look like spider bites ➤ Fever and chills <p>Most staph infections heal quickly when treated with antibiotics. More severe infections can lead to infection of the blood, bones, brain, heart, or lungs.</p>
<p>How is it spread?</p>	<p>Direct skin – to – skin contact</p> <p>Contact with a surface or object (e.g., doorknob, faucet) that is contaminated with MRSA bacteria</p> 
<p>Incubation period</p>	<p>Variable</p>
<p>When is the person contagious?</p>	<p>As long as sores continue to drain</p>
<p>How to prevent spread of the illness to other children.</p> 	<p>Child can attend school or the child care facility if the sore is not draining or can be covered with a dry dressing. The child should avoid activities such as sports that involve skin to skin contact until the infection is healed.</p> <ul style="list-style-type: none"> ➤ Ensure children do not share facecloths, towels, or bedding. Wash all linens in hot water and dry in a hot dryer. ➤ Carefully dispose of (or clean, if applicable) articles that are soiled with discharge from the child's sore. <p>For more information, refer to Routine Practices.</p> <p><i>Handwashing is the best way to stop the spread of infections.</i></p>



Mumps

What is mumps?

Mumps is a disease caused by the mumps virus. Mumps was a common childhood disease before vaccination. Now it is more common in young adults.

Mumps can cause serious illness, such as inflammation of the brain (encephalitis), which can lead to convulsions or brain damage. About 1 in 20 people with mumps gets mumps meningitis, an infection of the lining of the brain.

Mumps can also cause temporary deafness. Permanent deafness occurs in less than 5 in 100,000 people who get mumps.

About 1 in 4 adult men and post-pubertal boys with mumps develop painful swelling of the testicles. One in 20 women develops swelling of the ovaries. Both of these conditions are temporary and rarely result in permanent damage or sterility.

Mumps infection in the early stage of pregnancy may increase the rate of miscarriage. Mumps does not appear to cause birth defects.

Mumps Vaccine

The measles, mumps, and rubella (MMR) vaccine provides protection against mumps and is part of the routine childhood vaccine program. For more information, see

HealthLink BC File [#14a Measles, Mumps, Rubella \(MMR\) Vaccine](#).

How is mumps spread?

Mumps is contagious and spreads easily. Mumps is spread by contact with respiratory secretions like saliva. Sharing food, drinks or cigarettes, or kissing someone who has the virus can also put you at risk. When an infected person coughs or sneezes, the virus spreads through droplets in the air. You can be exposed to the virus even if you are a few feet away from someone with mumps.

What are the symptoms?

Symptoms may include fever, aches and pains, headaches, and swelling of the salivary glands, especially the parotid glands that are at the side of the cheeks.

Up to 1 in 5 people with mumps do not have any symptoms. About 1 in 3 people with mumps do not have salivary gland swelling. However, they can still spread the mumps virus to other people.

Symptoms can appear from 16 to 25 days after a person is infected with the mumps virus. A person with mumps can spread the virus to others from 7 days *before* to 9 days *after* symptoms develop.

Have you been exposed to mumps?

If you have been in contact with someone with mumps, and you were born after 1970

and have not been vaccinated, you should contact your local public health unit. You will be advised to receive one dose of MMR vaccine to protect you against mumps in the future.

If You Think You Have Mumps

If you have swollen salivary glands and especially if you have been in contact with a person with mumps or traveled to an area with a mumps outbreak, have yourself examined by a doctor. Bring your immunization record with you. A physical examination, blood test, and swab of your salivary glands inside your mouth or a urine sample will be collected to make the diagnosis of mumps. Avoid making contact with new people for 9 days after your symptoms start, and avoid sharing your saliva with your household and other close contacts to prevent them from getting infected.

Home Treatment

After seeing a doctor, the following home treatment tips may help you to be more comfortable while you rest and recover.

- Drink plenty of fluids such as water, juice and soup, especially if you have a fever.
- For a fever, use acetaminophen (Tylenol®, Tempra®, Atasol®) to bring the fever down. ASA or Aspirin® should NOT be given to anyone under 20 years of age due to the risk of Reye Syndrome with some virus infections.
- Get plenty of rest.

- Use an ice pack or heating pad for a swollen or painful jaw. Be sure to place a light towel on the jaw to protect the skin.
- Avoid sour foods or sour liquids because the inflamed salivary glands are very sensitive to sour tastes.
- Eat ice chips or flavoured ice treats, and soft foods that do not require chewing.

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Rabies

What is rabies?

Rabies is a very serious and usually fatal disease caused by the rabies virus, which infects the brain and nervous system. Rabies is fatal if the disease is not prevented with shots given soon after exposure.

Symptoms include headache, fever, increasing difficulty in swallowing, excessive drooling, muscle spasm or weakness, and strange behavior.

Any mammal can carry the rabies virus. Currently in B.C., only bats are known to carry rabies and other animals have rarely been found to be rabid. In other parts of Canada, the rabies virus is found in wild animals such as bats, raccoons, skunks, foxes and coyotes. In some developing countries, dogs and other animals often have rabies.

What are the symptoms of rabies in animals?

Animals with rabies often act very strangely. Some animals may become aggressive. Wild animals often show a lack of fear of humans, and they may attack humans for no reason.

Symptoms of rabies in animals include paralysis, especially of the hind limbs and throat muscles. Rabid bats may appear normal except for a gradual weakness and loss of flying ability. Rabid bats may also come out in the daytime, which is unusual bat behaviour.

What should I do if I have been exposed to rabies?

If you are bitten or scratched by an animal that may have rabies or seems sick and behaves strangely, you should:

1. Wash the wound well with soap and warm water under moderate pressure for at least five minutes and then flush thoroughly with water. This greatly reduces the chance of infection.

2. Seek medical care from your doctor or local public health unit right away.

It is crucial to begin prevention treatment for possible rabies as soon as possible. It typically takes from 3 to 8 weeks before rabies symptoms start. If you wait until the symptoms appear, it is usually too late to start effective medical treatment. If there is *any* chance that you may have been exposed to the rabies virus, contact your local public health unit or family doctor. They will be able to decide if you need rabies prevention.

What is the treatment for rabies exposure?

Prevention treatment is only successful if started before symptoms appear. It involves getting both rabies immune globulin and rabies vaccine.

Rabies Immune Globulin:

- Rabies Immune Globulin (RabIg) is rabies antibodies taken from donated human blood. It is given once, usually at the same time as the first dose of rabies vaccine. RabIg is given by needle into the area(s) of the bite or scratch and in a different place on your body than the vaccine.

Rabies Vaccine:

- If you have never received rabies vaccine before, you will get 5 doses or shots in the upper arm over a 28-day period. The vaccine makes your immune system produce antibodies against the rabies virus. Antibodies are proteins that help to fight infection.
- If you have received a full series of rabies vaccine in the past, you will get 2 shots of rabies vaccine over a 3-day period. These will boost your antibodies against rabies.

Possible Reactions after Treatment

Common reactions to RabIg may include soreness or stiffness where the shot was given. Fever, headache, feeling unwell, rash, or chills may also occur.

Common reactions to the vaccine may include soreness, redness, swelling and itching where the shot was given. Fever, nausea, headache, muscle aches, fatigue and dizziness may also occur.

Report serious or unexpected reactions to your public health nurse or doctor.

Who should not get the immune globulin and rabies vaccine?

Anyone who has been exposed to the rabies virus will receive the vaccine and immune globulin. Speak with a public health nurse or doctor if you have had a life-threatening reaction to eggs or egg products.

How can rabies be prevented?

- Vaccinate your cat, dog, or ferret against rabies and keep its immunization up-to-date.
- If your pet has contact with a bat, consult your public health unit and veterinarian.
- If you find a dead bat, do not touch it. The rabies virus could enter broken skin.
- If you have come into physical contact with a live bat which can be captured, you can do the following:
 1. Contact a wildlife professional or pest control company to have someone capture it; your local public health unit may be able to suggest someone to help.
 2. If no one is available to capture the bat, try to capture the bat without touching it so it can be tested for rabies.
 - If the bat is inside, close all doors and windows in the area. Put on a hat, leather gloves, a long-sleeved jacket, and pants.
 - Use a blanket, net, broom or towel to catch the bat without touching it and protect any exposed area such as your face. Use tongs to put the bat in a sealable container. Clean the tongs with boiling water. Place the container in a cool, safe place away from human or pet contact, or put it into the freezer so the bat will go into hibernation. Do not kill the bat.
 - Call your local public health unit.
 - The bat will be tested for rabies. If it does not have rabies, no prevention will be necessary.

- If bats are in your attic, contact your nearest Ministry of Environment office for advice, or visit the website at www.env.gov.bc.ca/epd/ipmp/publications/brochures/bats.htm. If you are travelling for a month or more to a developing country where rabies is often found in different animals, consider being vaccinated for rabies before you leave. Get advice at a travel clinic.
- If you are attacked or bitten by **any** animal outside of B.C., you should get medical advice about rabies prevention treatment, no matter how long since you were bitten.
- If you receive shots for rabies exposure in another country, you should get information about the products used, including copies of the immune globulin and vaccines labels. Show them to your B.C. health care provider to make sure they are adequate. Consider returning home to Canada for medical attention.

Mature Minor Consent

Efforts are made to seek parental or guardian consent prior to immunization. Children under the age of 19 who are able to understand the risks and benefits may consent to or refuse immunizations, regardless of the parents' or guardian's wishes. It is recommended that parents/guardians and their minor children discuss immunizations beforehand, and ask the nurse or doctor any questions.

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Rubella

What is rubella?

Rubella (German measles) is a disease caused by the rubella virus.

Rubella is usually a mild illness. Most people who have had rubella or the vaccine are protected against the virus for the rest of their lives.

Because of routine vaccination against rubella since 1970 in BC, rubella is now rarely reported.

Rubella infection in pregnant women is dangerous. If a pregnant woman is infected with rubella, she may have a miscarriage or stillbirth. The baby may be born with severe abnormalities, including deafness, eye problems, heart defects, liver, spleen and brain damage. This is called Congenital Rubella Syndrome (CRS) and occurs in one out of four babies born to women who have rubella infection in the first three months of pregnancy. CRS is rare because so many women are already immune to rubella infection. Cases still occur in Canada, however, in babies born to women who immigrate to Canada as rubella vaccination is not routine in many parts of the world.

Rubella Vaccine

The measles, mumps, rubella (MMR) vaccine provides protection against rubella

and is part of the routine childhood vaccine program. For more information, see [HealthLink BC File #14a Measles, Mumps, Rubella \(MMR\) Vaccine](#).

Immunization against rubella helps prevent the disease and the spread of the disease to others.

A woman of childbearing age should make sure she is immune to rubella before getting pregnant. If she is not immune (has not had the disease or been immunized), she should get the vaccine, and then wait one month before getting pregnant.

A pregnant woman who does not know if she is immune to rubella will be offered a blood test for rubella immunity routinely as part of prenatal care. If she is not immune, she should be vaccinated after the pregnancy, preferably before leaving the hospital. Rubella-containing vaccine should not be given during pregnancy as a general precaution of avoiding live vaccines in pregnancy. If a woman receives rubella vaccine inadvertently during her pregnancy, this is not a reason to terminate the pregnancy. The vaccine has never been found to cause Congenital Rubella Syndrome.

How is rubella spread?

Rubella spreads through close contact with an infected person with their respiratory secretions, such as through coughing or sneezing. Sharing food, drinks or cigarettes, or kissing someone who has the virus can also put you at risk.

What are the symptoms?

Symptoms may include a rash, fever, joint aches, headache, discomfort, runny nose and irritated eyes. The lymph nodes located behind the ears and at the back of the neck may swell and feel painful.

The rash, which may be itchy, begins first on the face and then moves downwards from the head to the feet, and lasts about three days. About half of all rubella infections show no symptoms of a rash.

Symptoms can appear 14 to 21 days after a person is infected with the rubella virus. In most cases, symptoms appear 14 to 17 days after exposure to the virus.

A person with rubella can spread the virus to others from 7 days *before* to 4 days *after* the rash first appears. Children, teens, and adults with rubella should not attend daycare, school, or work or be around other people, especially pregnant women.

Home Treatment

After seeing a doctor, the following home treatment tips may help you to be more comfortable while you rest and recover.

- Drink plenty of fluids such as water, juice and soup, especially if you have a fever.
- Get plenty of rest.
- For a fever or body aches, use acetaminophen (Tylenol®, Tempra®, Atasol®). ASA or Aspirin® should NOT be given to anyone under 20 years of age due to the risk of Reye Syndrome.

For more HealthLink BC File topics, visit www.HealthLinkBC.ca/healthfiles/index.stm or your local public health unit.

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Salmonellosis

What is Salmonellosis?

Salmonellosis is a food borne infection caused by *Salmonella* bacteria. These bacteria infect the gut lining of the stomach and multiply in the small intestine.

Symptoms such as sudden stomach pain, diarrhea, fever, nausea and vomiting are common. Dehydration may be severe, especially among babies or children.

How is Salmonellosis spread?

Illness may occur after a person eats food or drinks water contaminated with *Salmonella* bacteria. Symptoms usually occur within 12 to 72 hours and usually last 4 to 7 days.

- *Salmonella* may be found in humans and wild or domestic animals. Both humans and animals can have the bacteria and yet appear healthy. One way the disease spreads is through the “fecal-oral” route; bacteria are shed in the feces of infected people or animals and these can get into food or drink through poor sanitation.
- *Salmonella* is also commonly found in food, such as raw or undercooked meat and meat products, poultry (such as chicken and turkey), raw sausages and unpasteurized dairy products. It can also be found in raw eggs and raw or undercooked egg products.
- Cooked, ready-to-eat food can be contaminated when using the same cutting board, plate or utensil to prepare other food items, such as raw meat. Cutting boards, plates and utensils must

always be washed and sanitized immediately before cooked or ready-to-eat foods are placed on them.

How do I prevent Salmonellosis?

- Always wash your hands after you use the bathroom.
- Do not let anyone prepare food that has a *Salmonella* infection or stomach illness.
- Wash your hands before, during and after preparing food.
- Thoroughly cook all foods that come from animal sources, particularly poultry, egg products and meat dishes.
- Cook meats and poultry to an internal temperature of at least 74°C (165°F). Use a meat thermometer to make sure the meat is cooked to the proper temperature.
- If turkey or chicken is cooked with stuffing in it, make sure that both the meat and the stuffing are well cooked to an internal temperature of at least 74°C (165°F).
- Do not re-contaminate cooked foods: place them on clean, sanitized surfaces which have not been used before to prepare other food.
- Do not let raw or cooked foods sit for a long time at room temperature.
- Do not eat raw eggs, such as in egg-nogs or homemade ice cream; use whole pasteurized egg products for these and other foods that are not cooked thoroughly.
- Never use dirty or cracked eggs.
- Use only pasteurized milk and milk products.

- Educate food handlers and persons who prepare food about the importance of the following:
 - keep hot foods hot and cold foods cold;
 - wash hands before, during and after food preparation;
 - keep a clean kitchen; and
 - protect prepared foods from rodent and insect contamination.
- For more information, go to www.canfightbac.org.
- Some domestic animals and pets, such as chicks, ducklings, turtles, snakes and iguanas, can carry the *Salmonella* bacteria. Wash your hands well after handling these animals or pets and help young children wash their hands. The same applies for visiting petting zoos.

How do I control Salmonellosis?

- See your family doctor.
- If local health officials think there is a salmonellosis outbreak in your community, they will conduct an in-depth investigation.
- Do not let infected individuals handle food until the infection is over and follow-up stool samples show they are clear of *Salmonella* bacteria.
- Wash your hands well. It is the best way to protect yourself and others from illness.

How is Salmonellosis treated?

If you have been infected, you may be asked to answer detailed questions and to submit a fecal or stool sample (bowel movement).

Your family doctor may prescribe antibiotics if you have a severe case of Salmonellosis, another chronic illness or a poor immune system. For more information, visit www.dobugsneeddrugs.org/.



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Scabies

What is scabies?

Scabies is an infestation of the skin caused by a very small insect-like parasite called a mite.

The female scabies mite lays her eggs just under the surface of the skin. These eggs hatch in 3 to 4 days and the larvae move out to the surface of the skin where they mature. There they mate and repeat the life cycle, gradually spreading the infestation.

How is scabies spread?

Scabies is usually spread by extended, close personal contact with an infested person.

Sharing clothes, towels or bedding are less common ways of becoming infected with scabies. People are often embarrassed to discover they have scabies; however, it can happen to anyone and does not mean poor personal hygiene.

What are the symptoms?

For 2 to 6 weeks after infestation, there may be no symptoms. Then you will develop a red rash and will usually begin to feel an extreme itchiness. This is often worse at night.

Rashes appear more commonly in the webs between the fingers, the insides of the wrists and elbows, the breasts, the male genitals, the belt line, the back and the buttocks. In infants, a rash can affect the head, neck, palms and soles.

Scratching can result in a secondary infection of the skin.

What if I have a weakened immune system?

If you have a weakened immune system, such as Human Immunodeficiency Virus (HIV) infection, you are at risk of developing a severe case of scabies known as crusted (Norwegian) scabies.

Crusted (Norwegian) scabies is highly contagious and difficult to treat because of the large number of mites found in and on the skin.

For more information on HIV, see HealthLink BC File [#08m HIV/AIDS](#).

How do I know I have scabies?

The most common sign of scabies is constant, intense itching. In some cases, the tiny, grayish white scabies - also known as burrows - can be seen. They look like wavy, thread-like lines just under the skin surface. These are usually masked by scratching before the person is seen by a doctor. Because itchiness and skin rashes have many causes, only your doctor can say for sure if you have scabies. Your doctor does this by looking at a tiny sample of skin scrapings under the microscope.

How do I know I have crusted (Norwegian) scabies?

Signs of crusted (Norwegian) scabies include:

- scaly, crusted sores on hands, feet, scalp, face, and body,
- skin on the face flaking off,
- hair loss, or
- mild itching.

How is scabies treated?

Scabies will not go away without treatment.

See your doctor before treating scabies.

There are a number of lotions or creams that you can buy from pharmacies. It is important to read the label carefully and follow directions exactly. Some treatment may not be suitable for children, pregnant women, or breastfeeding women.

Because adults do not normally get scabies above the neck, you should not have to apply the lotion to your face and scalp. However, your doctor may recommend applying the lotion to the head and scalp of children.

Itchiness will continue for 1 to 2 weeks after treatment. This is common, and will get better. Do not repeat the treatment unless advised by your doctor. Your doctor may recommend a second treatment 1 week after the first treatment.

Crusted (Norwegian) scabies is very contagious and can be difficult to treat. Medicine used to treat regular scabies may not work. For more information, speak with your doctor.

What about cleaning house?

Put on clean clothes and bedding after the treatment. Bedding and clothes worn next to the skin 3 days before treatment should be cleaned appropriately. They should be washed with detergent in hot water and dried on the hot cycle. Any clothing that can not be laundered should be stored for several days to 1 week before reuse. You do not have to wash items such as mattresses and furniture. It is a good idea to give your house a thorough vacuuming, including soft or upholstered furniture.

Preventing re-infestation

If 1 person in your family or household has scabies, there is a good chance that others will have it too. They may not have symptoms yet. For this reason, all household members should be treated at the same time.

Children may return to school or day care after they have been treated.

Your public health unit should be informed if the person who has scabies:

- attends school or day care; or
- lives in a nursing home or other setting where close personal contact is difficult to avoid.

Measures can then be taken to prevent further spread.



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Streptococcal Infections: Scarlet Fever and Strep Throat

<p>What is it?</p>	<p>Scarlet fever and strep throat are both caused by streptococcal bacteria. Rheumatic fever may occur as a result of untreated streptococcal infection.</p> <p>Signs and symptoms of scarlet fever may include:</p> <ul style="list-style-type: none"> ➤ Red rash that looks like sunburn and feels like rough sandpaper ➤ Rash most often begins on chest and stomach and then spreads to rest of body ➤ Rash usually lasts 2 – 7 days ➤ When rash fades, skin on hands and feet may start to peel ➤ Fever ➤ Nausea and vomiting ➤ Sore throat ➤ Red, swollen lips, strawberry – like tongue ➤ Flushed cheeks and pale area around mouth <p>Signs and symptoms of strep throat may include:</p> <ul style="list-style-type: none"> ➤ Fever ➤ Very sore throat ➤ Swollen lymph glands ➤ Swollen tonsils ➤ Loss of appetite
<p>How is it spread?</p>	<p>Through direct and indirect contact with the nose and throat secretions of an infected person:</p> <ul style="list-style-type: none"> ➤ Breathing in air contaminated with streptococcal bacteria when an infected person has coughed, sneezed, or talked ➤ Touching the nose and throat secretions of an infected person ➤ Touching articles recently contaminated with the nose and throat secretions of an infected person <p>Contaminated food and milk products can be sources of streptococcal outbreaks.</p>
<p>Incubation period</p>	<p>Usually 1 – 3 days from contact with an infected person</p>
<p>When is the person contagious?</p>	<p>In untreated cases, 10 – 21 days. Untreated cases of strep throat may carry the organism for weeks or months.</p> <ul style="list-style-type: none"> ➤ Child is no longer infectious after 24 hours of antibiotic therapy.
<p>How to prevent spread of the illness to other children.</p>	<p>Exclude child from school or child care until 24 hours after starting antibiotics or fever is gone.</p> <p>Carefully dispose of (or clean, if applicable) articles soiled by the nose and throat secretions of infected children.</p> <p>For more information, refer to Routine Practices.</p> <p><i>Handwashing is the best way to stop the spread of infections.</i></p>



Tuberculosis (TB) Disease

What is tuberculosis (TB)?

Tuberculosis (TB) is caused by germs that are spread through the air when a person with infectious TB coughs or sneezes. Anybody nearby is at risk of breathing these air-borne TB germs into their lungs.

When these TB germs attack the lungs and grow, they cause damage to the lungs, and can spread these germs to other people. TB can also affect other parts of the body like glands, bones, joints, kidneys, reproductive organs. TB is not likely to be spread to others from these areas of the body.

Infection or Disease?

You have a TB *infection* when you have breathed TB germs into your lungs and your body's defenses have stopped them from growing. Even though you are infected, you will not feel sick, and you cannot spread TB germs to others.

However, if you have breathed the germs into your lungs and those germs start to grow and become active, you then have TB *disease*. You may or may not feel sick, *but when you have the disease you must remember that you can spread TB germs to those around you.*

What are the signs of TB?

Some signs of TB may include loss of appetite, weight loss, fatigue, fever or night sweats. If the TB disease is *in your lungs* you may also have chest pain, shortness of breath or a cough.

If TB affects other parts of your body, the symptoms may vary.

Where can I get tested for TB?

You can get tested for TB at your local health unit, or your doctor can arrange for you to have a test.

You can also get tested at the following clinics:

Vancouver Chest Clinic
655 West 12th Avenue
Vancouver, BC
Phone: 604-660-6108

New Westminster TB Clinic
#100 – 237 E Columbia Street
New Westminster, BC
Phone: 604-660-8826

TB Clinic
1952 Bay Street
Victoria, BC
Phone: 250-519-1510

How do they test for TB?

A tuberculin skin test is the first test given to check for TB. This is a two-part test. A small needle injects a small amount of a harmless test substance under the first layer of skin on your forearm. Although there is minimal risk, you will be asked to stay in the clinic for 15 minutes following the skin test to see if you experience any allergic reaction. The reaction you may get from this is a raised area where the needle was given.

The second part of the test is done two or three days later. You must go back to have your reaction to the injection measured. Depending on your reaction, you may need further tests, such as a chest x-ray or a sputum (spit) sample.

What are the chances of a TB infection becoming TB disease?

If you have TB infection, there is a five to ten per cent chance of developing tuberculosis over your lifetime. However, if your body's resistance to infection or germs is lowered, you are more susceptible to TB disease.

You can reduce the risk of TB infection developing into TB disease by using preventive treatment for twelve months.

What is the treatment for TB disease?

The good news is that TB *can* be cured, and all the testing and medications are provided free of charge. If you develop the disease, you *must* have treatment - to cure you *and* to prevent you from spreading the TB germs to your family and friends.

Treatment consists of taking several types of pills regularly for six to nine months. During this time, you will have several chest x-rays and sputum (spit) samples to check your progress.

Do I really have to take these pills every day for 6 to 9 months?

Yes. It is *really* important for you to take *all* the pills you are given, exactly as directed, until you have used up all your medication.

Some people with TB do not finish all the pills they are prescribed because they start to feel better. However, this does not mean they are cured of TB disease. TB germs are very difficult to get rid of. Even though you may start to feel better after only a few weeks or months of taking these pills, the germs are still active in your body, and you need to keep taking your pills until you finish the medication.

What if I do not take all my pills?

If you do not take *all* the pills you are given, for as long as the doctor or nurse tells you to, there is a good chance that the TB germs in your body will become resistant to the medicine.

If this happens, you may feel more ill than you were before, and you may need to have more treatments for a longer period of time. This is why it is very important for you to finish taking *all* your pills, *every day*, exactly as directed.

How do I keep from spreading TB germs?

When you start your treatment, you will still be able to spread the germs for another two to three weeks. To reduce the risk of giving TB to others, it is important to remember to:

- Cover your nose and mouth when coughing, sneezing or laughing;
- Use disposable tissue such as Kleenex® when coughing up and discard tissue in a waste basket;
- Be in well ventilated rooms;
- Avoid close contact with other people.

How do I know if I have spread TB germs?

TB is an infectious disease. Sometimes when you have active TB disease, you may spread TB germs to others around you without being aware.

You will be asked where and with who you have been in contact. All information you give will be kept confidential.

Any people you may have had contact with will be checked to see if they are infected too. If they are infected, they will be offered preventive treatment to make sure they do not develop TB disease.

For more HealthLink BC File topics, visit www.HealthLinkBC.ca/healthfiles/index.stm or your local public health unit.

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BCCDC has changed its phone numbers: The new main line is (604) 707-2400

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Overview

[Print page](#)

[Close window](#)

- [Definition](#)
- [Symptoms](#)
- [Causes](#)
- [Complications](#)

- [Tests and Diagnosis](#)
- [Treatment and Drugs](#)
- [Coping and Support](#)
- [Prevention](#)

Definition

Salmonella Typhi (*S. Typhi*) are bacteria which infect the intestinal tract and the blood. The disease is also referred to as typhoid fever. *S. Paratyphi* A, B and C bacteria cause a similar illness which is included under the typhoid heading.

S. Typhi is common in many developing countries where sewage and water treatment systems are poor. Most cases reported in BC are among travelers returning from those areas.

Symptoms

A *S. Typhi* infection is serious and potentially life-threatening.

S. Typhi may cause:

- Constipation, more common than diarrhea
- High fever
- Headache
- Fatigue
- Loss of appetite
- Dizziness
- Cough
- A rash on the trunk

Symptoms start an average of 1 to 2 weeks (range: 3 to 60 days, or longer) after exposure to the bacteria.

If you think you have a *S. Typhi* infection, see your family doctor for testing, advice and treatment.

-

Causes

S. Typhi is spread by the fecal-oral route. Fecal material from infected humans can get into our mouths in a variety of ways:

- Consuming contaminated food or drink, prepared by someone who is infected or a carrier (a carrier is someone who has recovered from illness, but continues to carry the bacteria in their body and can infect others)
- Contact with the feces of infected humans that is not followed by proper hand washing
- Consumption of ready-to-eat food that has been contaminated by sewage, such as fruit fertilized with night soil, or shellfish from an area contaminated by a sewer outfall
- Sexual contact with a carrier has been known to cause infection

People who have recovered from illness may remain infectious to others (about ten per cent of those recovered may pass the bacteria in their stools or urine for up to three months). Two to five per cent may become carriers, passing the bacteria in their excreta permanently.

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Complications

With treatment, the case fatality rate is less than one per cent. Fifteen to 20 per cent may experience relapses.

-

Tests and Diagnosis

Your doctor can test for an *S. Typhi* infection through a blood, stool or urine culture.

-

Treatment and Drugs

Antibiotic treatment is required for *S. Typhi* infections. Without antibiotic treatment, the symptoms may last for months and the fatality rate can be as high as 20%.

Your doctor will decide which treatment is right for you. If your symptoms have already gone away, antibiotics will help clear the bacteria from your system so that you do not

pass the infection on to others.

Early treatment with antibiotics reduces the risk of serious illness or death.

-

Coping and Support

If you are a food handler, health care worker or work in or attend a day care, it is possible for you to transmit *S. Typhi* or *S. Paratyphi* to others in these settings. You **must not** work while infected. A public health official will contact you to discuss when you can return to work or day care. See [Exclusion of Enteric Cases and their Contacts from High Risk Settings](#).

Children in day care with fever or diarrhea can be cared for temporarily in an area separate from other children until picked up by their parents. To ensure proper hand washing, children should be supervised by an adult when washing their hands.

Workers and day care attendees can only return when three negative stool samples have been provided, and, if they have traveled to a schistosomiasis-endemic country, and could have been exposed to that, they must also provide a negative urine sample.

Prevention

-

Vaccination

Before you travel to a country where *S. Typhi* is common, consult your doctor or a travel clinic to discuss vaccination against the disease. The vaccine will provide some protection against typhoid fever (it is about 50 to 55 per cent effective). The vaccine is recommended for the following people:

- Travelers who will have prolonged exposure to contaminated food and water, especially in regions with higher rates of typhoid fever.
- People living in the same house as a typhoid carrier, or who have sexual contact with a typhoid carrier
- People who may be exposed to the bacteria at work, e.g. laboratory workers

Vaccination is **not** routinely recommended for short-term travel to resorts in these areas:

- Asia
 - Africa
 - Central and South America
 - Middle East
- typhoid vaccination is not necessary for people living in Canada.

Routine Precautions during travel:

Anyone who travels to a country where typhoid fever is common, including Canadian immigrants returning to their country of origin, is at risk of becoming infected with *S. Typhi*. It is important to practice careful hand washing and be aware of the foods you eat and where you buy them.

The following tips can help you avoid infection:

- Wash your hands with clean water after using the toilet, before preparing food or drink and before eating
- Drinking water must be bottled (be careful to buy it from a reputable outlet) or boiled
- Do not have drinks served with ice unless you are certain the ice was made from bottled or boiled water
- Do not eat raw fruits and vegetables unless you can peel them yourself
- Do not consume raw or undercooked fish or shellfish, especially oysters. You can tell food is safe when it is served hot and steaming
- Do not eat food from street vendors
- Do not consume unpasteurized dairy products (milk, cheese, yogurt)

Epidemiology of Typhoid Fever (*Salmonella Typhi*) in BC

- In 2008, there were 45 reported cases of typhoid fever in BC
- Over the last ten years, an average of 24 infections per year have been reported to the B.C. Centre for Disease Control
- Most cases reported in Canada are among travelers returning from developing countries

Related Links

[Public Health Agency of Canada](#)

[U.S. Centers for Disease Control and Prevention](#)

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West Nile Virus

What is West Nile Virus?

West Nile virus (WNV) is a disease usually spread between birds by mosquitoes. Mosquitoes can become carriers of the virus after biting birds infected with the virus. It is possible for people, horses and other animals to become infected if they are bitten by a mosquito carrying the virus.

What are the symptoms of West Nile Virus?

Most people infected with WNV (about 80 per cent) will not get sick at all. About 20 per cent of people will have a mild to moderate illness that starts 3 to 14 days after being infected.

Symptoms may include fever, headache, body aches, fatigue, swollen lymph glands, and sometimes a rash on the body. These symptoms generally last about a week, but they can last much longer.

In under 1 per cent of people, WNV infection can result in more serious illnesses such as meningitis (inflammation of the lining of the brain), encephalitis (inflammation of the brain), or polio-like paralysis. People who have one of these more serious illnesses may also have high fever, severe headache, confusion and weakness.

In very rare cases, WNV infection can result in death. If you develop a severe headache or neck stiffness for which you can not find a cause, or other symptoms of WNV, contact your doctor.

What is the treatment for West Nile Virus?

Many of the symptoms and complications of WNV can be treated, although there is no specific treatment, medication or cure for the infection. Most people who are infected with WNV get better, but it may take a long time to recover fully. There is no human vaccine for WNV at this time.

Where is West Nile Virus found?

WNV is found in many parts of Africa, Western Asia and the northern Mediterranean area.

The first outbreak of WNV in North America was in New York City in 1999. Since then it has spread to most US states and across most provinces of Canada, including B.C.

What is the risk of West Nile Virus in B.C.?

There are many species of mosquitoes, but only a small number of these can carry and transmit the virus. Some of these are present in B.C.

Once the virus enters a community, the risk of infection continues to grow as it gets later in summer and especially if it remains quite hot.

How can I protect myself?

Any activity that prevents mosquitoes from biting or breeding will help to reduce the risk of infection with WNV. There are many simple things that you can do to protect yourself:

- **Use mosquito repellent** – Applying a mosquito repellent to areas of exposed skin is an excellent way to prevent mosquito bites. Check the product label for instructions on proper use. For more information about insect repellents, see HealthLink BC File [#96 Insect Repellents and DEET](#).
- **Wear protective clothing** – Avoid dark clothing as it tends to attract mosquitoes. If you are in an area with lots of mosquitoes, wear loose fitting, full-length pants and a long-sleeved shirt to keep mosquitoes from biting. Mosquitoes that can carry WNV are most active in the evening and early morning, especially at dusk and dawn.

- **Install mosquito screens on windows** – If you are in an area where there are many mosquitoes, spend more time in well-screened or enclosed, air-conditioned areas. Consider staying indoors when mosquitoes are most active, which is from dusk to dawn.
- **Prevent mosquito breeding around your home** – Anything that can hold water is a likely mosquito breeding area. Identify and remove these areas on your property. A few things to do include: empty saucers under flowerpots; change water in bird baths 2 times a week; unclog rain gutters; drain tarps, tires and other debris where rainwater may collect; and install a fountain in ornamental ponds or stock them with fish.

Backyard pools can be a big source of mosquitoes and should be maintained regularly to prevent mosquito growth.

What is being done to watch for WNV?

Many types of birds can be infected with WNV. However, birds in the corvid family, such as crows, ravens, jays and magpies, are very sensitive and likely to die from the virus. Officials test dead birds to find out if WNV has moved into an area.

Some areas of B.C. have programs in place for collecting and testing samples of dead birds. The public can help by reporting them to the local health unit.

Sightings can also be reported on the BC Centre for Disease Control website at www.bccdc.ca/westnile.

While birds reported on the website will not be picked up for testing, health authorities will be tracking the number of dead birds reported to help assess the risk of WNV in an area.

Could handling a dead bird infect me?

The risk of infection from handling birds is very low; nevertheless, you should not use your bare hands to handle wild birds or other animals (dead or alive). If you need to move a dead bird, the following precautions should be taken:

- Do not touch dead or live birds with your bare hands.
- Use a shovel to pick up the dead bird, place it in double garbage bags and be careful not to puncture the garbage bags.
- If you do not have a shovel:

- Use heavy-duty, leak-proof rubber gloves as used in house cleaning, or use several leak-proof plastic bags as a glove.
- Turn the plastic bags inside out over your hand, and grasp the bird, and then pull the bags out over the bird so the bird is inside the bags. Be careful not to touch the bird and keep your hands outside the bags. Handle the bird so its beak or claws do not puncture the gloves or bags.
- Make sure you and your clothing do not contact the bird or its blood, body fluids or feces.
- Dispose of the bird according to local bylaws.
- Always wash your hands after disposal of any dead animal, even though you use gloves.

For more information

- BC Centre for Disease Control
www.bccdc.ca/westnile
- Office of the BC Provincial Health Officer
www.health.gov.bc.ca/pho/wnv.html
- To contact your local health authority, visit the Ministry of Health Services' website at www.health.gov.bc.ca/socsec/ or look in the blue pages of your local telephone book.
- Public Health Agency of Canada
www.phac-aspc.gc.ca/wn-no/ or call 1-800-454-8302



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Pertussis (Whooping Cough)

What is pertussis?

Pertussis, or whooping cough, is a serious infection of the lungs and throat caused by pertussis bacteria (germs).

People of any age can get pertussis. Young children who have not been immunized get more sick than older children and adults.

Pertussis can cause complications such as pneumonia, convulsions, brain damage or even death. These complications happen most often in infants. Each year in Canada, 1 to 3 deaths occur due to pertussis.

Complications of pertussis include:

- Apnea (stopping breathing)
- Pneumonia
- Convulsions or seizures
- Encephalopathy or brain damage.

Pertussis Vaccine

The pertussis vaccine provides protection against pertussis and is part of the routine childhood immunization program.

Protection from the vaccine decreases after several years. A vaccine for youth and adults is available. Ask your public health nurse or doctor for more information about this vaccine.

How is pertussis spread?

Pertussis spreads easily when an infected person coughs, sneezes or has close contact

with others. Sharing food, drinks or cigarettes, or kissing someone who has the pertussis bacteria can also put you at risk.

A person with pertussis who does not get treatment can spread the germ to others for up to three weeks after the cough starts.

What are the symptoms?

Pertussis starts like a common cold with symptoms such as sneezing, runny nose, mild fever and a mild cough.

Over the next week or two, the cough gets worse, leading to severe coughing spells that often end with a whooping sound before the next breath. This cough can last a month or two and occurs more often at night. The cough can make a person gag or spit out mucous, and make it hard to take a breath.

Babies less than six months old, teenagers, and adults may not make the whooping sound. Therefore, anyone who has a cough that lasts more than one week should see a doctor.

Is there a treatment?

Pertussis is treated with antibiotics, which help reduce the spread of infection and the duration of illness if given during the very early stage of the illness.

People at high risk of serious illness who are in close contact with someone with pertussis are given an antibiotic to prevent the disease. This includes infants less than one year old and pregnant women in the last three months of pregnancy, as well as all of their household and daycare contacts.

People who have or may have pertussis should not have contact with babies or young children until they have been properly tested and/or treated for pertussis.

If you have been in contact with a person who has pertussis, you should call your doctor or local health unit for more information.

Home Treatment

After seeing a doctor, the following home treatment tips may help you to be more comfortable while you rest and recover.

- Stay quiet and calm to help prevent the coughing spells.
- Avoid smoke, dust, sudden noises, lights, and other unnecessary stimulation that may trigger coughing spells.

- Have frequent small drinks of fluid, and make sure to get enough to eat, as coughing requires a lot of energy.
- If humidity helps ease coughing spells, use a cool mist humidifier in the room. If humidity worsens the cough, avoid it. Dry, hot, or polluted air may worsen coughing spells.

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