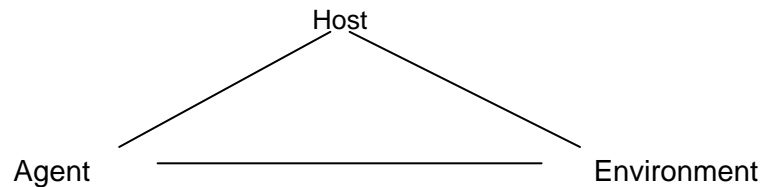


5. Infection Control

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Disease Transmission

- Disease transmission triangle shows the interaction of agent – host – and environment. This interaction is needed for germs to spread from one person to another.



- Some germs are spread by different kinds of contact:
 - *direct contact*, germs are directly transferred from one person to another (e.g. pink eye)
 - *respiratory contact*, germs are spread through the air when someone coughs or sneezes (e.g. flu, measles)
 - *fecal-oral contact*, germs are spread when someone goes to the washroom and does not wash their hands following.
- Handwashing interrupts this interaction and therefore the spread of germs.

Handwashing

One of the most effective ways to control the spread of germs and disease is handwashing. A Canadian study found that proper handwashing reduced 54% of colds and 72% of diarrhea illnesses. School staff can play an important role in teaching and encouraging the habit of handwashing by children.

Children should be taught to wash their hands:

- At the beginning of the day
- After coming home from school
- Before making, serving or eating food
- After using the toilet
- After touching anything that might be a source of germs

School bathrooms should:

- Use liquid soap. Studies have shown that bacteria can grow on dirty bar soap.
- Provide paper towels, rather than hot air dryers. Bacteria are removed by the friction of the paper towels..

- Have working water taps that are controlled by the user. Spring-loaded taps, which must be held by the user to keep the water flowing, do not permit good handwashing.
- Display a sign or poster at children's height to reinforce handwashing.

Are Antimicrobial products for handwashing necessary in schools?

- Antimicrobial or antibacterial products such as handsoaps, dishwashing liquids and hand lotions have exploded on the market in recent years. Manufacturers have hit the jackpot as these products play on the consumer's basic desire to protect one's family and fear of getting an infection.
- While antimicrobial products do kill bacteria, different products contain different strengths of antimicrobial substances, ranging from small amounts, which have very little antimicrobial activity, to others which have large amounts. The ability of various products to kill bacteria is not known to the consumer.
- There is no proven infection control or prevention benefit to using these products. These products have not been proven to reduce infection in the community. They do have a short term purpose in certain health care settings when dealing with various infectious diseases and in some outbreak situations.
- The negative side of using these products is the promotion of antibiotic resistance, as these products will damage the "normal flora" (the good bugs found in the body). Therefore these products should only be used when appropriate (as outlined above).
- Antimicrobial products for handwashing are not necessary in schools¹. Regular handwashing with regular soap and running water is the most effective of preventing the spread of organisms.

¹Association for Professionals in Infection Control and Epidemiology, Inc. Position Statement on the Use of Antimicrobial Household Products. APIC Newsletter November/December 1997.

For teaching resources or more information on handwashing, call Capital Health LINK or use the **Group Service Request** form available from your Public Health Centre.

Routine Precautions

- Routine Precautions are measures taken to prevent the spread of germs, including germs found in the blood such as Hepatitis B, Hepatitis C and HIV. All blood and body fluids that have visible blood in them should be treated as if they are infected because no one can tell who is infected with these viruses and who isn't.

- Use a gloves between yourself and blood and body fluids that have visible blood when handling, e.g. when applying pressure to a child who is having a nosebleed). Gloves should be approved by the Canadian Standards Association (CSA) and gloves should be used only once.
- Dispose of blood and body fluids that have visible blood in a plastic lined regular garbage can.
- Regular cleaning routines are recommended as many germs can survive for a long time on a variety of surfaces.
- Soiled laundry can be washed in regular laundering cycles.

Cleaning Spills of Blood and Other Body Fluids

Here are general steps for cleaning spills of blood and other body fluids to prevent the spread of infection:

1. Wear gloves approved by the Canadian Standards Association (CSA).



2. Blot excess fluid using paper towel.
3. Discard paper towel in plastic lined garbage can.
4. Clean surface with a household low-level disinfectant such as Lysol, Pinesol, or a solution of 1 part bleach to 10 parts water.
5. Blot up the solution with fresh paper towels.
6. Dispose of paper towels in a plastic lined garbage can.
7. After cleaning, remove gloves and wash hands thoroughly with soap and water.
8. If a mop is used, rinse it with a household low-level disinfectant.

Bleach solution must be fresh to be effective. Once diluted, it is good for 24 hours. To ensure freshness, mix the bleach solution when it is needed.

In the school, teachers or school staff who know about a spill or accident should alert janitorial staff to clean the spill site.

If the spill occurs in a carpeted area, shampoo the carpet and let dry. (Carpet is considered a non-critical pathway, which means that micro-organisms are not likely to be transmitted to humans from carpet. There is no effective way to sterilize carpet.)

Needlestick Injuries

For general information
on needlestick injuries,
call Regional Public
Health at 413-7949.

Why are used needles dangerous?

Used needles can contain very small amounts of blood, which, in turn, may carry viruses that cause serious diseases such as HIV, Hepatitis B and Hepatitis C. A person who is poked by a used needle could become infected by HIV or Hepatitis. Since we do not always know whose blood contains these viruses, the safest approach is to treat all blood as though it contains viruses.

⇒ Warn children **NEVER** to touch needles!

⇒ Only handle or pick up needles, if necessary.

Safe needle disposal:

1. Only adults should handle and dispose of needles.
2. Take a container made of strong plastic or metal to the needle site. (Such as an empty plastic bleach bottle or peanut butter container with a lid.)
3. Place the container on a flat surface.
4. If possible, use tweezers, pliers or wear gloves to pick up the needle.
5. Pick up the needle, pointing the tip away from your body.
6. Do not hold the container with your hand when putting a needle into it. You could accidentally poke yourself.
7. Drop the needle in the container and tighten lid securely.
8. Throw out the container with general garbage for pick up.

Preventing needlestick injuries:

- When you handle needles, hold the syringe with the needle pointed down and carry it away from your body.
- Do not recap the needle. Many injuries happen this way.
- After use, carefully throw the needle away following the procedure described above.

If your work requires you to handle garbage:

1. Be very careful. You do not know what the garbage may contain.
2. Empty the garbage can into another bag or container. Do not put your hands into the garbage.

3. Always wear heavy gloves when handling garbage.
4. Use a broom to pack down garbage, if packing is required.
5. Hold garbage bags away from your body.

Treating a Needlestick Injury

Needlestick Response Team:

Call 480-6598

The team is available from 8:30 a.m. to 10:00 p.m., Monday - Sunday

1. Wash the area immediately with soap and water, but allow the wound to bleed.
2. Contact the Needlestick Response Team (NRT).

The Needlestick Team is made up of Nurse Specialists, Communicable Diseases who provide information and advice to people who are accidentally exposed to blood or body fluids from another person through a sharp (i.e. needle, lancet) or splash to the eyes or mouth.

Infection Control and Musical Instruments

We know that a large number of micro-organisms, including diseases such as chickenpox, measles, staphylococcus and streptococcus infections and tuberculosis, can be spread through the saliva. Because we have no simple way of knowing whether an individual is carrying an infectious micro-organism in their saliva (other than diagnosis of disease), schools should take care to reduce the spread of diseases.

The mouthpieces on musical instruments – particularly those used by more than one child, as in a music class or band – should be sterilized or disinfected to prevent the spread of disease. *Sterilization* destroys all form of life by using physical or chemical agents, such as heat or chemical vapor. *Cold disinfection* involves putting an object in a solution of a chemical agent and water to destroy most micro-organisms.

The high cost of equipment for sterilization and the fact that plastics cannot be heat sterilized usually means that sterilization is not possible in schools. Cold disinfection, while not a substitute for sterilization, is a good alternative for most schools.

Choosing a disinfectant for musical instruments

Compounds that can be used on mouthpieces and instruments include:

1. Combination Phenolice (Synthetic), a non-corrosive, a non-irritating, odorless compound that won't hurt most metals and plastics. Some brand names include "Pathex", "Omni II" and "Multicide".
2. Buffered chlorine products, such as "Presept" will disinfect without corroding metals.

Both of these products can be found at medical and dental supply companies. Contact the school supplier of products for more information.

Other potential disinfectants, including alcohol, boiling water and bleach are NOT recommended for disinfecting mouthpieces or instruments because of their effect on skin and/or plastics and metals.

Steps for disinfecting mouthpieces/musical instruments

1. Soak in warm water for twenty minutes.
2. Wash with soap and water.
3. Rinse thoroughly with water.
4. Immerse in the disinfectant solution. When using the disinfectant, follow the manufacturer instructions on dilution levels and immersion times to ensure effectiveness.
5. Rinse thoroughly with water and let dry.
6. In schools where dishwashers are available, mouthpieces can go into the dishwasher on a regular wash cycle.

Guidelines for disinfecting musical instruments

1. Do not allow children with visibly active cold sores, severely chapped lips or upper respiratory infections to use mouthpieces or instruments.
2. Clean brass instruments with a cleaning snake and warm water before passing to other children or after a child has had a communicable disease, such as a cold or flu.
3. Wipe dry woodwind instruments after every use.
4. Disinfect mouthpieces after use by a child who has had a communicable disease and throw out used reeds.

Source: Day, P.L. (1991). Infection Control in the Music Environment, *Canadian Band Journal*. Vol. 15, No. 3, Spring 1991.

The best way to prevent the spread of disease is to make sure that everyone who uses a whistle has his or her own whistle. When whistles must be shared, they should be cleaned regularly to prevent the spread of disease.

To clean whistles

1. Prepare a light bleach solution with approximately one capful of bleach to one gallon of water.
2. Immerse whistles in bleach solution. If whistles have a wooden ball, limit the time to ten minutes they are in bleach solution.
3. Rinse well with water.

Bloodborne Pathogens (Hepatitis B, C and HIV in School)

Bloodborne Pathogens Hepatitis B, C and HIV (Human Immunodeficiency Virus, the virus which causes AIDS) are spread by contact with the blood, semen or vaginal fluids of a person who is infected with Hepatitis B, C or HIV. It **cannot** be spread through casual contact such as hugging, kissing, shaking hands, coughing, sneezing or using swimming pools or toilet seats.

If there is a child or staff member in your school who is living with Hepatitis B, C or HIV:

- Understand how these bloodborne pathogens are spread and know the risks to other children and school staff from spilled blood.
- Follow Routine Precautions and the process for Cleaning Spills of Blood and Body and Other Body Fluids.
- Call your Public Health Centre if you have any questions about the bloodborne pathogens Hepatitis B, C and HIV.

Food Preparation and Storage

- Food preparation areas should have sinks and towels supplied for handwashing.
- Hands should be washed before any food preparation and prior to feeding (e.g. a child with special needs).

How to Keep the Infirmary Clean

- A cleaning schedule should be developed to meet the needs of the school. If the room is used daily then it should be cleaned daily, etc.
- All horizontal surface, equipment and furniture should be cleaned with a low-level disinfectant.
- Linen on the bed should be changed when soiled **AND** after someone with a known communicable disease (e.g. chickenpox) uses it. If in doubt, change it, and on a regular basis, dependent on use.
- A protective cover such as a sheet can be used to cover the linen.