PICNet
PROVINCIAL INFECTION CONTROL NETWORK OF BRITISH COLUMBIA
A program of the Provincial Health Services Authority

Infection Control Quick-Reference Guide for Residential Care Facilities

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1. Introduction

The purpose of this booklet is to provide a quick reference for infection prevention and control in residential care facilities. For more details on any of the subjects below, you can consult PICNet's Residential Care Infection Prevention and Control Manual for Non-affiliated Residential Care Facilities, which you can download from www.picnet.ca/practice-guidelines.

During outbreak situations, follow your facility's policy and procedures.

2. Infections

What is an infection?

An infection is any illness caused by the **growth of germs** on or in a person. These germs can be bacteria, viruses, or fungi. The common cold is caused by a virus; so is influenza (the flu).

Infections can range from fairly minor, like coughs and colds, to more serious ones like septicemia (blood poisoning) and wound infections. Infections can spread quickly unless certain measures are taken.

When a germ is commonly found on our body without causing an illness, we call it **colonization.** People who are colonized will have no signs or symptoms; they feel fine. In certain circumstances, these germs may go on to cause an infection. For example, many people are **colonized** with MRSA, but it only becomes an **infection** if the bacteria get into a wound, the lungs, or the blood — making the person sick. Then the infection needs to be treated.

Residents with certain conditions are more at risk from infections: for instance, those with diabetes, or heart and skin diseases, or those with weaker immune systems.

Not all germs cause infections!

Resident and transient flora

*Resident flora are not the bacteria in the residents you care for! They are the ones that **reside in your body.***

Billions of bacteria live on our bodies. This is normal and healthy. These germs are part of the body's **resident flora**.The parts of the body they typically colonize include the surface of the skin, mucous membranes (eyes, nose, mouth), digestive tract (gut, bowel), and upper respiratory system (mouth, nose and throat). These germs do not cause harm.

Transient flora are just passing through. Although they may attempt to colonize the same areas of the body as do the resident flora, transient germs are unable to remain in the body for extended periods of time due to:

- competition from resident flora
- elimination by the body's immune system
- physical or chemical changes within the body that discourage the growth of transient germs

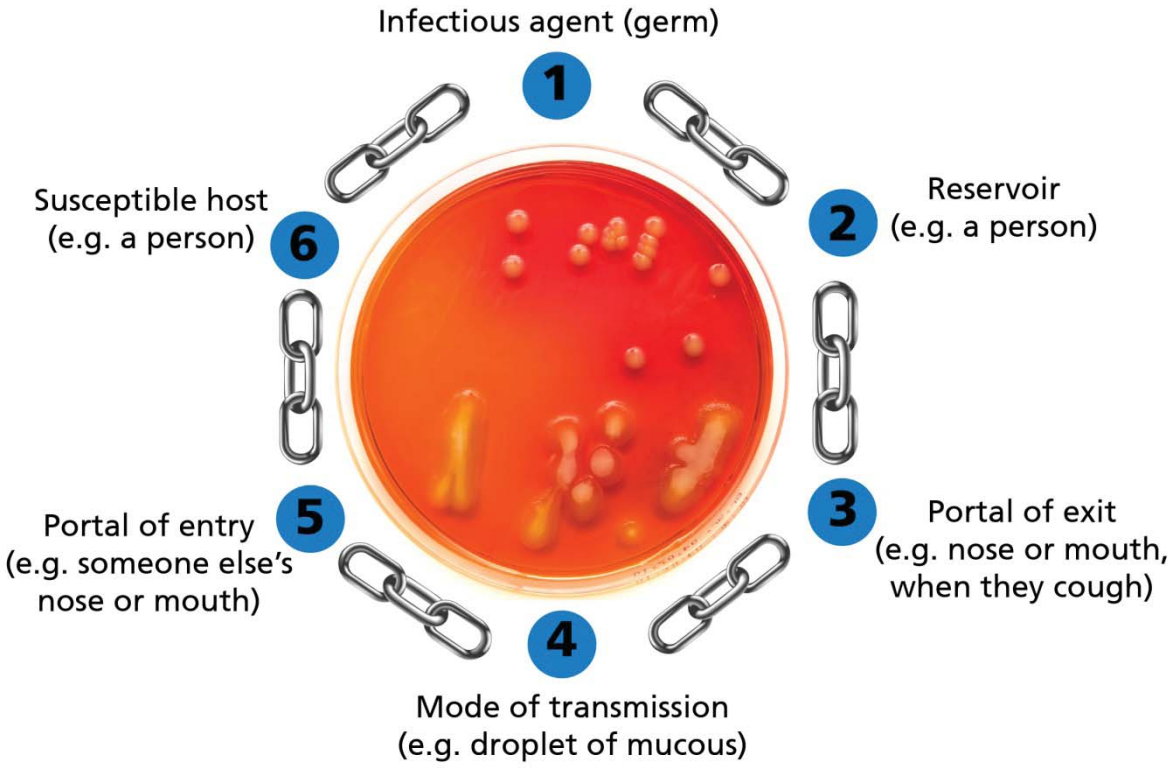
How infections occur

Under normal conditions, neither resident nor transient germs cause harm. However, if the opportunity arises, some of these germs are able to cause infections. This can happen due to a number of different conditions:

- When the immune system isn't working properly, normal flora can overpopulate or move into areas of the body where they do not normally live.
- When the balance of normal germs is disrupted, for example when a person takes broad spectrum antibiotics, transient germs that are normally crowded out by resident germs have an opportunity to take over. Tougher, or antibiotic-resistant bacteria, can get the upper hand.
- Disease can result when normal flora are able to get into an area of the body that they do not normally occur in. Catheters or surgical wounds can allow germs into areas of the body that are normally sterile.

Chain of infection

The chain of infection is a means of describing the way an infection spreads from one person to another. Let's say an infectious germ is living and multiplying in a person. The person coughs into their hand, then touches a door handle, leaving their germs there. Another person touches the door handle, then touches their eyes, nose, or mouth. The germs have just found a way into the next person... completing the chain of infection.



Here's a simpler way to look at it:

How germs get around

How to break the chain

The chain of infection can be broken by using good infection prevention and control practices. Many of these are simple:

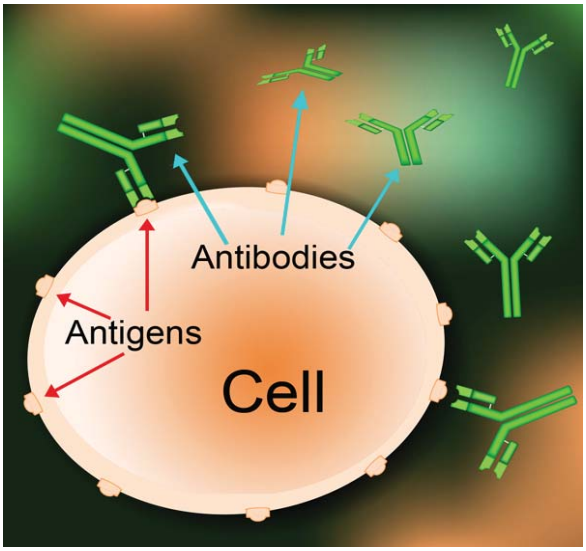
- Clean your hands regularly, especially after going to the bathroom, before eating, and before and after touching a patient or resident. Hands can be cleaned with soap and water or an alcohol-based hand rub.
- Remind (and help) your residents to clean their hands, especially before they eat.
- Regularly clean shared surfaces such as keyboards, telephones, door handles, and elevator buttons.
- Cough or sneeze into your elbow, not your hand – and cover the spray completely!
- Stay home when you're sick (especially if you have a fever, cough, vomiting or diarrhea).
- Keep your vaccinations up to date.

Vaccinations

In order to stay healthy, it's important to keep your vaccinations (immunizations) up to date.

How they work

Vaccinations work by introducing a dead or attenuated (weakened) form of the germ into your body. In order to fight an infection, your body has to figure out how to produce the right **antibodies**. These antibodies fit the germ exactly like a key fits a lock. The vaccination lets your body figure out how to produce this new key... without you getting sick from it.



Close-up: like a key fits a lock!

Why you need boosters

Not all vaccines produce an equally strong response in our bodies. That's why some vaccinations are only needed once or twice in your lifetime, while others are needed more often.

With the flu vaccine, the flu virus mutates (changes) every year, which means that the antibodies you have from the previous year may not recognize the new virus. You need a new flu vaccine each year to match the latest "version" of the flu.

For example, you only ever need one dose of the rubella vaccine in your lifetime; that's because this particular vaccine produces a really strong response in our bodies.

Some vaccines don't produce as strong an immune response in us, and that response weakens over time. That's why "boosters" are needed to refresh your body's' response. For example, you should get a Tetanus booster every ten years.

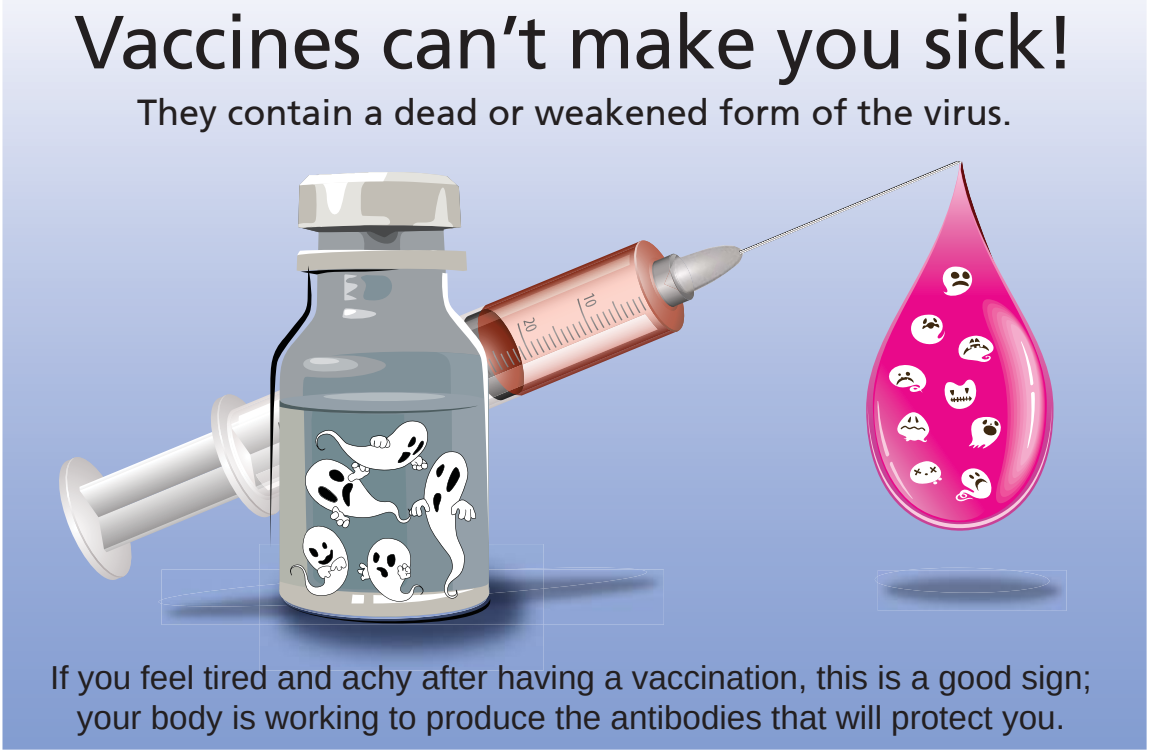
Your family doctor can advise you on what vaccinations you need boosters for. It's a good idea to keep your own record of immunizations, because if you switch doctors or move to another province/country, you'll want these records with you. If you're planning to travel, check with your local travel health clinic for the vaccinations or boosters you will need. You can also find a list of vaccinations that healthcare providers should have on page 39 of this booklet.

You can't get the flu from the flu shot!

The flu shot contains only dead pieces of the virus that causes influenza. If you feel tired or unwell after your flu shot, that's usually a good thing; it means your body is busy figuring out how to produce the right antibodies.

The flu vaccine contains 3 or 4 different strains of the flu, so yes it is still possible to get a different strain of the flu… but the vaccine contains the ones that are most likely to spread each year. Remember, flu is only one of the many viruses that spread each year. Other viruses can cause flu-like symptoms, but these aren't covered by the flu shot. No vaccine is 100% effective, but they are the best protection we have.

Flu shots help protect you, your residents, and your family as well. If you don't have the flu, then you can't bring it home to your family! Remember that you can pass the influenza virus to others for up to 24 hours before you even have symptoms yourself, so you could be spreading flu germs without realizing it. This is why getting the vaccination is best for everyone; there will be less people spreading flu germs.



Vaccinations and the elderly

Why is it so important that staff who work with the elderly are vaccinated? In general, vaccines have been shown to be somewhat less effective in the elderly and among people with high-risk conditions. However, because the risk of influenza-related complications among this group is so much higher, vaccination still provides important benefits. While healthy people will usually just be sick for a week with the flu, it can lead to serious complications and even death in the elderly.

It's important that you get your flu shot because **influenza outbreaks can be caused by viruses brought into the facility by ill staff members.** Studies have shown that having a high level of staff immunization decreases the rate of hospitalization and death in residents.

Routine Practices

Routine Practices are the basic methods of infection prevention and control (some of which have been discussed earlier). These practices apply to all staff for all patients, residents, and clients in all settings at all times. For the basic ones such as hand cleaning and respiratory etiquette, it's important to educate your volunteers, visitors, and residents to do these, too.

Routine practices include:

- **Hand hygiene** includes cleaning your hands with soap and water or an alcohol-based hand rub, keeping your skin healthy, and not wearing finger and wrist jewellery or artificial nails, as these interfere with proper cleaning.
- **Respiratory etiquette** is a fancy term for **covering your coughs and sneezes** – properly!
- Handling of all **blood and body fluids** as if they are carrying germs
- Use **personal protective equipment** (e.g. gloves, gown, mask and eye protection) when needed – and remove it afterwards!
- Keep living and working areas **clean and tidy** (e.g. room, supplies and equipment)
- Correct handling and disposal/removal of **sharps**
- Correct **waste/garbage** management and removal
- Cleaning and reprocessing of **reusable equipment**

Hand Hygiene

Even if your hands appear to be clean, they may carry germs. Hands pick up micro-organisms (germs) in a number of ways. When people who are sick sneeze or cough, the germs that are making them sick are expelled into the air in tiny droplets. If these droplets get onto your hands, and then you touch your mouth, eyes or nose without washing away the germs, you can pick up the infection.

Washing your hands not only prevents you from getting sick, but it also reduces the risk of infecting others. If you don't wash your hands properly before coming into contact with others, you can infect them with the germs on your hands. Other people can also get sick from the germs unwashed hands leave on shared objects like doorknobs, keyboards, and other equipment in the home or workplace.

Hand hygiene is all about keeping your hands clean and the skin healthy. This is done by:

- **Washing** your hands with soap and water, or cleaning with alcohol-based hand rub (ABHR).
- Using **moisturizer** to protect your skin – this prevents chapping and skin breakdown.
- **Not wearing jewellery or artificial nails** – these interfere with cleaning your hands properly, and can harbour germs.

Nice manicure.

Even better hiding place.

Remember: nails should be kept clean and short at all times. Long and/or chipped nails are known to harbour bacteria and interfere with effective hand hygiene. Artificial nails and nail enhancements should also not be worn as they increase the risk of glove tears and transmission of organisms.

Proper Methods of Handwashing

Although hand washing might seem like a simple task, you should follow these steps to thoroughly rid your hands of germs.

What Kind of Soap to Use

- Use plain soap that does not contain antibacterial agents. Plain soap will remove the dirt and grease that attract bad bacteria.
- Plain soap will not kill the good bacteria that live on the hands.
- Using antibacterial products unnecessarily increases the concentration of antibiotics in the water supply and in the environment.
- Liquid soaps are better than bar soaps because germs can live on bar soaps.

Steps When Using Soap

- Remove any hand or arm jewellery you may be wearing.
- Wet your hands with warm water.
- Apply plain soap to your hands and rub together for 20 seconds (the length of time it takes to sing Twinkle Twinkle Little Star or Happy Birthday)
- Wash the front and back of your hands, as well as between your fingers and under your nails.
- Rinse your hands well for 10 seconds under warm running water, using a rubbing motion.
- Wipe and dry your hands gently with a paper towel or a clean towel. Drying them vigorously can damage the skin.
- Turn off the tap using the paper towel so that you do not re-contaminate your hands. When using a public bathroom, use the same paper towel to open the door when you leave.
- If skin dryness is a problem, use a moisturizing lotion.

Steps When Using Alcohol-based Hand Rub

- Alcohol-based hand rubs are quick to use. They are especially convenient when soap and water are not available.
- Make sure your hands are dry, as wet hands will dilute the alcohol-based hand product.
- Use enough of the product to cover all the surfaces of your hands and fingers.
- Rub your hands together until the product has evaporated.
- If dry skin is a problem, use a moisturizing lotion.
- Alcohol-based hand rubs don't work if your hands are greasy or visibly dirty. These products don't clean your hands and are not a substitute for handwashing. If your hands are visibly soiled, it is best to use soap and water.
- If it's not possible to wash with soap and water, use towelettes to remove the soil, then use an alcohol-based hand rub.

Soap and water, or ABHR?

Alcohol-based hand rub (ABHR), also called hand sanitizer, kills 99% of germs on contact. It is fast and effective, and usually easier to get to than a hand washing sink. It also contains emollients that help keep your skin from drying out.

ABHR can't kill all germs. One of these germs is ***C. difficile.*** If you've been in contact with a resident who has infectious diarrhea, you should use soap and water – and make sure they do, too. If there's no soap and water nearby, use ABHR first, and then soap and water as soon as you can get to it.

In laboratory studies, ABHR has also been shown to be less effective against norovirus, but it still does kill 90% of these germs. If you've been in contact with a resident with norovirus, we recommend that you use the **first available** method of cleaning, and then go wash with soap and water when you can get to a sink.

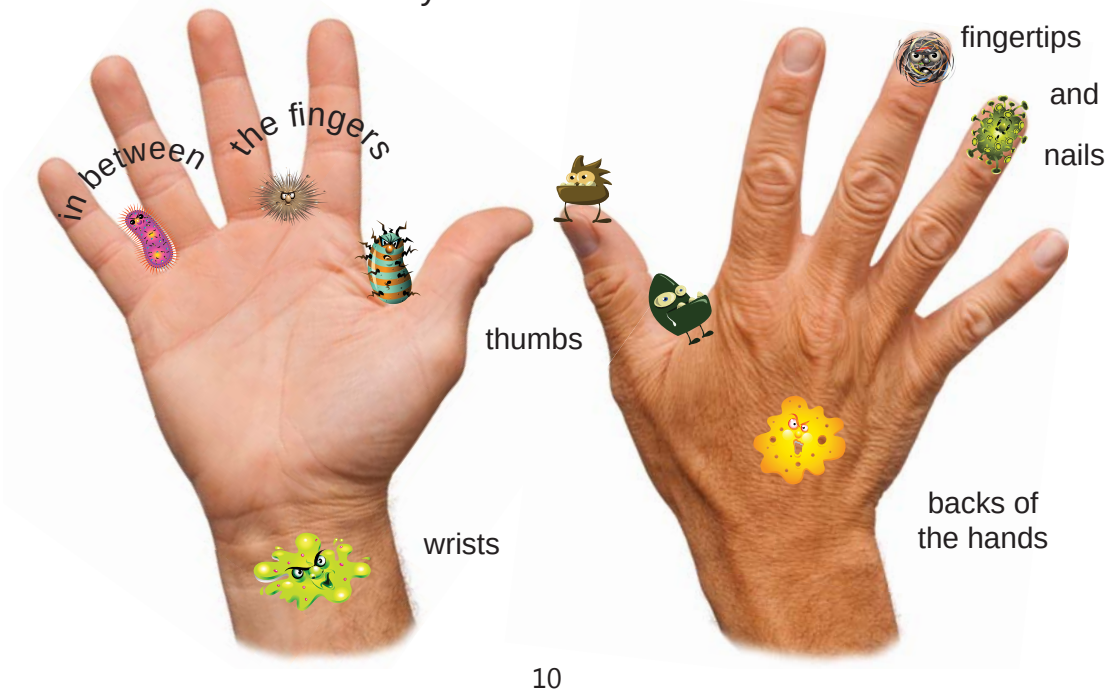
ABHR doesn't remove dirt. If you have handled something that has left your hands soiled (e.g. raw chicken, a soiled diaper) then soap and water needs to be used to remove the soil.

Cleaning with ABHR only takes about 15 seconds. Cleaning properly with soap and water takes about 30 seconds, plus the time it takes to dry your hands. Generally, soap and water will dry your hands out more than ABHR, so when you use soap and water you may want to use lotion, too.

In both cases, make sure you clean all areas of your hands – palms, backs, fingers, nails... and don't forget your thumbs!

Grimebusters!

Germs like to hide... remember to wash your hands thoroughly!
Commonly missed areas include:



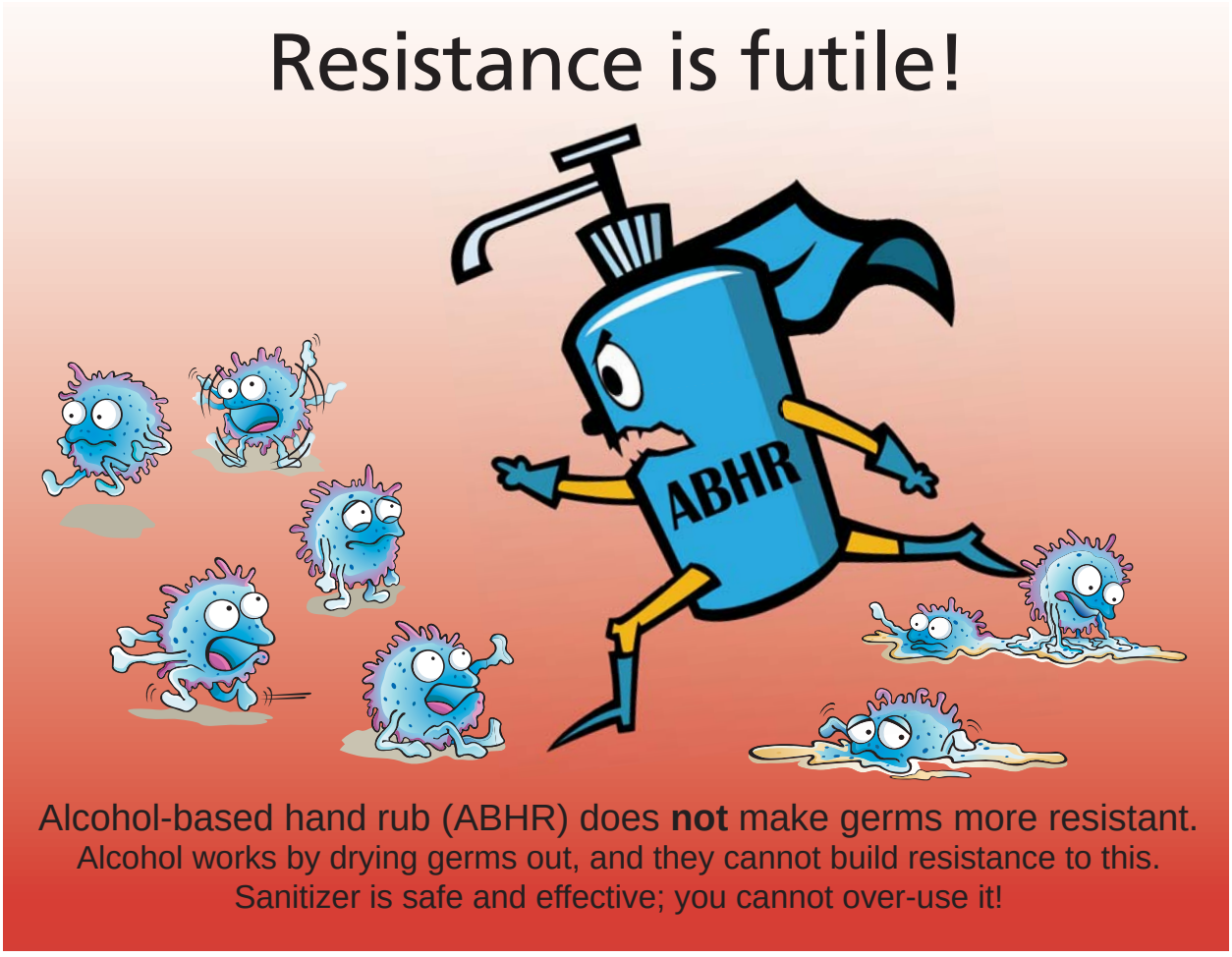
ABHR is safe!

ABHR is safe to use. It is not absorbed into the bloodstream, and does not have any harmful side effects. ABHR kills only the transient flora; it leaves the normal (resident) flora behind.

Also, ABHR does **not** make germs more resistant! "Superbugs" have been in the news a lot lately, and many people are confused about what makes a germ resistant. "Superbugs" are antibiotic resistant organisms (AROs), which are bacteria that have developed resistance to antibiotic medications usually used to treat infections. Germs have **not** developed resistance to alcohol-based hand rub. They can't because ABHR works by drying them out.

If you've heard that some germs are resistant to ABHR, these germs (such as *C.difficile*) are naturally resistant to ABHR, and always were! They did not develop resistance from anyone using ABHR. *C.difficile* forms a hardy spore (covering) that is able to withstand drying out and exposure to harsh chemicals.

So you can use ABHR any time your hands are not *visibly dirty*. After using it several times you may feel a bit of a build-up on your hands; this is the emollient that keeps your skin healthy. At that point you may want to use soap and water to remove the build-up (but ABHR still works, if you can't get to a sink).



Hand jewellery and false nails

Hand jewellery such as rings, bracelets, and watches interfere with proper hand cleaning, and can harbour germs. You should either not wear these to work, or remove them when cleaning your hands.

Long nails, false nails, chipped nail polish, and nail jewellery can also harbour germs, which is why most healthcare facilities have policies against healthcare providers wearing them.

Hand care

It's important that you keep the skin of your hands in good health, so that it doesn't become dry or chapped and prone to breakdown. You should use hand lotion to prevent your skin from becoming dry. If you suffer from frequent skin breakdown (dermatitis), you should consult your workplace health or doctor.

If you have a cut on your hand, it's important to cover it with a bandage so that no germs get into it. Be sure to change the bandage regularly, as you can't properly clean a bandage, and you don't want a dirty bandage to become a way for germs to spread!

Resident hand hygiene

We've talked a lot about keeping your hands clean… so what about your residents?

For a person to get an infection, the germs have to get into them. The most common way this happens is by a person touching their mouth, nose, or eyes – or eating – with hands that have germs on them.

Your residents are touching many of the same shared surfaces we are (door handles, elevator buttons, remote controls) and picking up people's germs along the way, so they need to clean their hands immediately before they eat. If they clean their hands in their room and then walk to the dining room – touching several door handles or railings along the way – their hands are no longer clean. It's best if they can clean their hands right before they eat. Do they have an opportunity to do this? Can you remind or help them?

Point of Care Risk Assessment

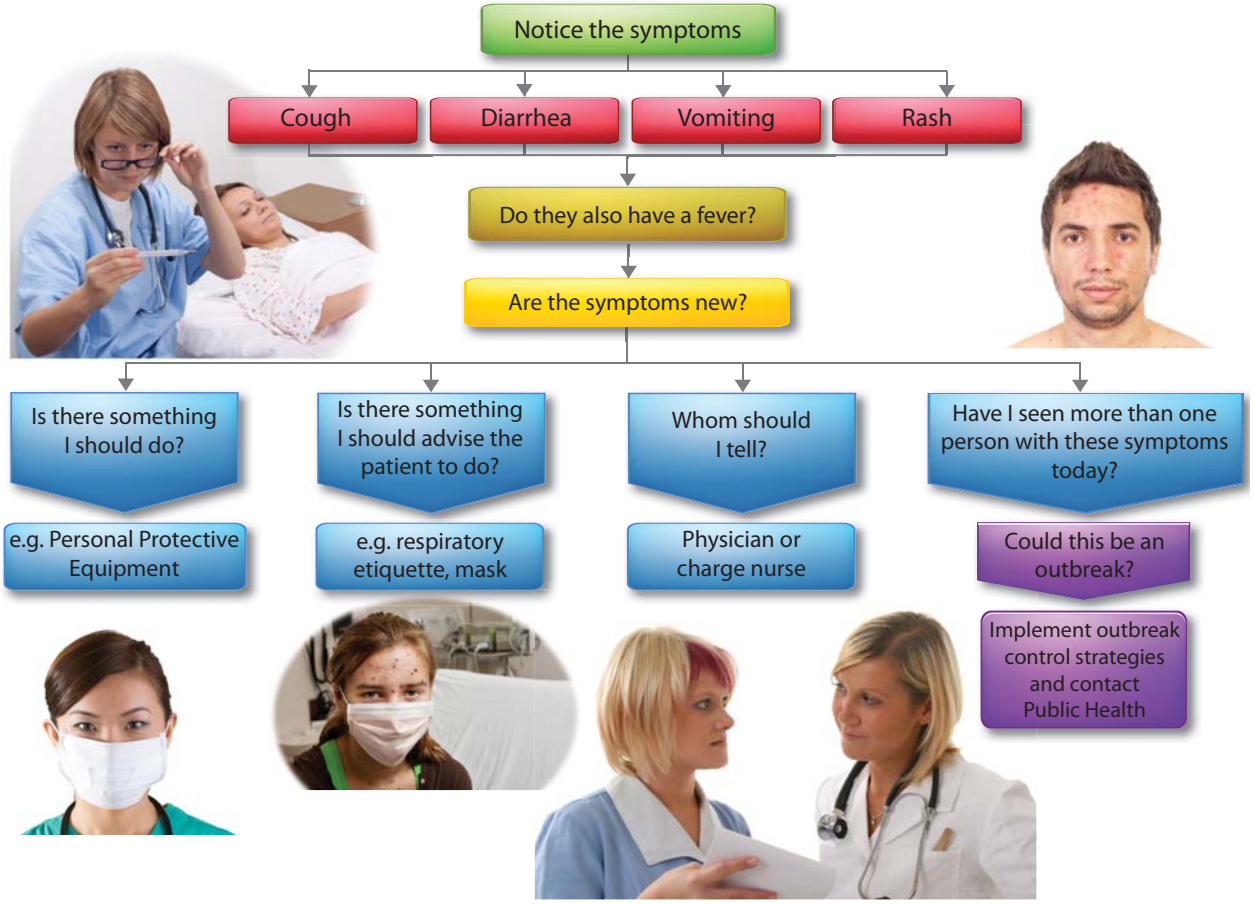
A Point of Care Risk Assessment (PCRA) is when you assess the risk around providing care to a resident who appears to be sick, or letting them interact with other residents. Sound complicated? In reality, healthcare workers conduct general point of care assessments many times a day (often subconsciously). For example, when you approach a resident, you automatically note their mental status, ease of breathing, skin colour, etc. An infection control PCRA is simply an extension of this.

Questions you should ask yourself during a PCRA include:

1. What contact am I going to have with the resident? (direct hands on care vs. no hands on care; contact with mucus membranes or non-intact skin)
2. What task(s) or procedures(s) am I going to perform? Is there a risk of splashes/sprays? Likely to stimulate a cough? Or gagging?
3. If the resident has diarrhea, is she/he continent? If incontinent, can stool be contained in an adult incontinence product?
4. Is the resident able and willing to perform hand hygiene? Or respiratory hygiene (covering their cough/sneeze)?
5. Is the resident able to follow instructions?
6. Is the resident in a shared room? Is there a better room/space that I should use to provide this care?
7. Is there personal protective equipment that I should put on prior to this task?

Who should do PCRAs?

Everyone that interacts with residents should be doing a PCRA. It can be as simple as noting if they're coughing today, when they weren't yesterday.



Personal Protective Equipment (PPE)

Gloves

Gloves form a barrier between our skin and other people's blood and bodily fluids; however, it is important to remember that they are not a complete barrier. All gloves have micropores (tiny holes), and germs can get through. That is why you must clean your hands before and after glove use.

Gloves are only necessary when you're assisting a resident who is on contact precautions, or when you might come into contact with blood or bodily fluids (e.g. when you're helping a resident use a bedpan or commode). You don't need them for activities such as pushing a person's wheelchair. Remember, gloves can't keep all the germs away! – it takes regular hand cleaning as well.

Gowns

The purpose of gowns is to protect your clothing. Gowns should be worn any time there is a risk of splashing (including someone coughing or sneezing) onto your clothes.

Masks and eye protection

Masks and eye protection should be worn any time there is a risk of splashing (including coughing and sneezing) into your face. Whenever you wear a mask, you must use eye protection as well, because the eyes are mucous membranes, and some germs (such as the common cold) can get into our bodies this way.

Remove your PPE!

It's important to remove your Personal Protective Equipment (PPE), like gloves and gowns, **immediately after use**. If you walk around the facility wearing any PPE, you will spread germs.

It's not Hollywood and it's not sexy.

Remove your mask and gloves after providing care!

Remove your mask, gown, and gloves immediately after providing care, and clean your hands thoroughly. Walking around wearing PPE spreads germs.

Additional Precautions

Additional precautions are used when a resident has, or is suspected of having, an infection. Use the appropriate precautions based on their symptoms. If you are unsure what precautions to follow, speak to the patient's/resident's nurse or your supervisor.

(For symptoms of GI infections, check first whether the resident has had a change in medication or diet; these can sometimes produce symptoms such as nausea, upsets stomach, and/or diarrhea.)

Contact precautions (gloves and gown) are used for infections where the germs travel from one person to another via hands or frequently touched surfaces (e.g. door knobs, bed rails).

Droplet precautions (gloves, gown, mask, eye protection) are used where the germs might spray into your face – e.g. for residents with fever and cough or other symptoms that would suggest a respiratory infection (e.g. influenza).

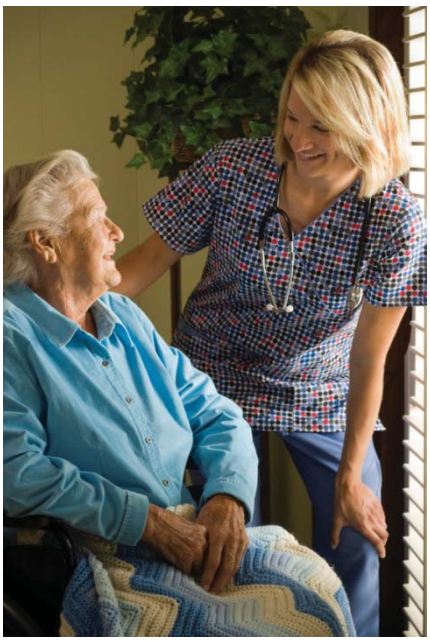
Airborne precautions are used for suspected airborne diseases (e.g. tuberculosis, measles, chickenpox). Generally, patients with these infections will be transferred to acute care.

Personal Protective Equipment

Mode of transmission	Contact	Droplet	Airborne
Precautions	gloves gown	gloves gown surgical mask eye protection	N95 respirator
Common Infections	Norovirus & other GI infections C. difficile MRSA Scabies	Influenza Common cold Whooping Cough	Tuberculosis Measles Chicken pox Rubella
Examples of symptoms	Diarrhea or vomiting Open wounds Patches of open skin	Coughing Sneezing	Chronic cough Fever with unidentified rash

What about a resident who is on contact precautions?

In general, residents who are on contact precautions can engage in all daily activities along with other residents and staff, without restriction, provided they are otherwise healthy and fit to participate (and assuming their behaviour does not put others at risk).



- Risk of cross-contamination should be evaluated when considering any restrictions.
- Skin lesions should be covered with appropriate dressings.
- Residents with covered skin lesions need NOT be restricted.
- Residents should perform hand hygiene prior to each meal and prior to participating in any activity or outing so that they may:
  - eat at the same table and same time as other residents, and may share the same condiments, such as salt, pepper, dressings, or garnishes, with other residents
  - use the same dishes and cutlery (disposable eating utensils or dishes not needed)
  - participate in any social function within the facility
  - travel together in the same vehicle with other residents to-and-from activities (no special vehicle preparation or cleaning is required)

Residents incapable of performing hand hygiene independently should be assisted with hand hygiene prior to each meal and prior to participating in any activity or outing.

Which precautions should I use if my resident is/has…

Symptom not yet diagnosed	It might be…	Personal Protective Equipment
Coughing or sneezing	Cold or flu	Gloves, gown, mask, eye protection
Vomiting	Norovirus or other GI infection	Gloves and gown
Diarrhea	C.difficile, MRSA, GI infection (e.g. norovirus)	Gloves and gown
Open sores, especially weeping open sores	Infection	Gloves; and gown if close contact
Itchy skin rash	Scabies	Gloves and gown
Hives	Allergic reaction	None

Sharps handling and disposal

If you are using sharps (e.g. needles, scalpel blades, etc.), you are responsible for their safe disposal in the designated container. NEVER RECAP SYRINGE NEEDLES. Discard used sharps in a clearly labeled sharps container with a secure lid at "point-of-use". Carrying a used sharp away from the "point of use" for disposal is a common factor in sharps injuries

Most containers indicate a "full" mark. Do not fill beyond this. Securely close the container if it is full and replace with an empty one.

Always dispose of broken glass in sharps containers.

Protect eyes, nose and mouth (using facial protection) when splashes with blood and/or bodily fluids are anticipated.

What to do if you are exposed to blood or bodily fluids

First, **clean** the area

- **Needlestick**: Wash well with soap and water. Allow wound to bleed. Do not squeeze or soak in bleach.
- **Mucous membrane or eye:** Rinse well with water and/or normal saline.
- **Skin**:
- 1. Wash well with soap and water.
  2. Report the incident to your supervisor; they will then forward the information to WorkSafeBC.
  3. Decide whether you need medical attention *(see below)*.
  4. Fill out an incident report.

How do you know if you need medical attention?

If you are splashed in the eye with urine, you can see your GP about this; you don't need to go to Emergency.

You are only at risk for hepatitis or HIV if you have significant exposure, i.e. if your skin has been punctured with a dirty needle. In this case, you must go to Emergency, and they will decide whether you need antiretroviral drugs.

Not sure? Your supervisor can help you decide whether you need medical attention.

Cleaning

Regular cleaning of surfaces is important to prevent the spread of infections, because when one person touches a surface they can leave germs there… and then the next person to touch it picks them up.

High-touch surfaces (such as bedrails, over-bed tables, call bells, door knobs, surfaces in the resident's bathroom, and in shared common areas for dining, bathing and toileting) should be cleaned more often than other surfaces (such as floors). Remember, the more a surface is touched by multiple people, the more likely it is to be a good place for spreading germs!

Generation Touch

We're touching more objects more often than ever before...
yet many commonly touched surfaces never get cleaned.

Wash your hands regularly to prevent the spread of infection.

How long do germs live on surfaces?

It depends on the germ, and the surface. The common cold virus can live for up to 3 hours on surfaces such as stainless steel, while spore-forming bacteria like C. difficile can live for months on some surfaces!

Cleaning of equipment, bedpans, commodes

Never use a spray nozzle to clean a bedpan or commode bucket. Spraying aerosolizes the germs in them so that they can be inhaled or come into contact with the mucus membranes of your mouth, nose and eyes.

Keep the clutter down

This makes it easier for housekeeping staff to clean the area properly!

Outbreaks

What is an outbreak?

When several residents have the same kind of symptoms, it is possible that this is an outbreak, so you should report it to the nurse in charge. There will be a set of actions like putting control strategies into place, putting up signs, and notifying public health.

Whatever the cause of the outbreak, follow the instructions posted in your facility.

Common types of infection

Common infections in a residential care facility include colds, influenza (flu), and norovirus. You may have heard of other ones like *C. difficile* and MRSA. (You can read more about these on pages 31 and 32). Outbreak procedures will vary slightly for each type of infection.

GI Infections

Gastrointestinal (GI) infections such as norovirus are quite common in winter, and these infections can spread easily. PICNet has a guideline document that deals specifically with these: Gastrointestinal Infection Outbreak Guidelines for Healthcare Facilities.

If your resident is having nausea/vomiting/diarrhea check with your supervisor to see if they have had a recent change in medication, laxative dosage, something new in their diet. If not, suspect an infectious cause and follow your facilities protocols for infectious gastrointestinal illness.

Respiratory infections

The majority of coughs/colds are caused by viruses, including the influenza virus. Residents in care are at much higher risk of serious illness and complications including death from these viruses. If your resident has a cough/sore throat/aching muscles, even if there is no fever, report this to your supervisor. Try to protect other residents from being exposed to this resident until they are well. Encourage the resident to practice cough etiquette and good hand hygiene.

Bloodborne diseases (such as Hepatitis)

Bloodborne diseases are only transmitted through a direct exposure between an infected person's blood and your blood circulating system; or their blood to an open mucous membranes. These are not easy diseases to catch.

Outbreak procedures

The process for dealing with an outbreak usually consists of:

1. Implementing control strategies
   - Isolation of infected residents (only in certain cases - see below)
   - Increased cleaning
   - Using contact or droplet precautions, depending on the type of infection
   - Paying close attention to hand hygiene – for residents, too
2. Notifying Public Health
3. Keeping a record of all residents and staff affected

Isolation

Generally, **residents in a long-term care facility are not isolated in outbreaks** because research has shown an increase in feelings of depression and anxiety in residents who are isolated.

Sometimes, especially in the case of GI (gastro-intestinal) outbreaks, they will have to be confined to their room for about 2 days. Time spent segregated or isolated should be kept as short as possible so that they do not feel lonely or like they're not being cared for. When isolation cannot be avoided, there should be a plan in place for regular visiting and monitoring by the staff, to make sure the isolated residents are eating, drinking, and socializing.

What should you do if you notice new symptoms?

If you notice new symptoms in your resident, report them to the nurse in charge, and she will assess them.

Volunteers and visitors

Visitors and volunteers should be made aware if there is an outbreak in the facility.

They should also, at all times, be encouraged to clean their hands when they enter the facility. This can be done by having an ABHR dispenser beside the front door, and posting a sign.

Education

It's important to be educated in infection control as germs are all around us… and they spread from person to person easily in a setting where people spend time together (like a large dining room or lounge) and share facilities (like bathrooms).

Why it's important to keep your education up-to-date

It's always good to take refreshers in any kind of education, as there are things we all forget. Also, there are always new developments and new information in infection control… so you want to take advantage of these!

PICNet Education Modules

There are several online education modules on the PICNet website. The **BC Infection Control and Hand Hygiene Module** is a good place to start. You can find an overview of PICNet's online learning modules at www.picnet.ca/edmodules.

Family and visitors

Family and visitors can bring germs into your facility, so it's important that they understand some infection control basics, like:

- Germs spread easily
- They can have an germs and not know it
- The most effective (and easiest) ways to stop the spread of germs are:
  - Hand cleaning
  - Respiratory etiquette (cover your cough/sneeze)
  - Stay home when you're sick!

Ways you can educate family, visitors, and volunteers

You can put up signs to remind people about hand cleaning, covering their cough, and staying away if they are sick. The entrance to the facility is the best place to have these. Other good spots are bathrooms, elevator doors, inside elevators, and above water coolers.

Questions

If you have questions about anything you've read so far, you can talk to your local Infection Control specialist, or your Director of Care, or contact PICNet. You can phone or email us:

Provincial Infection Control Network of BC (PICNet)
1001 West Broadway, Suite 504
Vancouver, BC V6H 4B1
Tel: 604-875-4844 x 22985
Email: picnet@phsa.ca Website: www.picnet.ca

PICNet also has a **Residential Care Infection Prevention and Control Manual for Non-affiliated Residential Care Facilities** available at www.picnet.ca/guidelines. This document covers all the information in this booklet – and a lot more!

Other resources

PICNet has all kinds of infection control resources on its website, including fact sheets, brochures, posters, videos, activities and games. You can find them all at www.picnet.ca/resources.

Types of Infections

The following pages provide information on common types of infections, as well as infections that you don't see as often but may have questions about. Most of this information is provided by **HealthLinkBC**. For more information, you can visit the HealthlinkBC website at www.healthlinkbc.ca.

Influenza (the Flu)

What is influenza?

Influenza, often called the flu, is an infection of the upper airway caused by an influenza virus. Symptoms can include fever, headache, muscle pain, runny nose, sore throat, extreme tiredness, and cough. Although infections from other viruses may have similar symptoms, those due to the influenza virus tend to be worse.

Getting sick with influenza also puts you at risk of other infections. These include viral or bacterial pneumonia which affect the lungs. The risk of complications is greater for seniors 65 years and older, very young children, and people who have lung or heart diseases, certain chronic health conditions, or weakened immune systems.

How can influenza be prevented?

You can reduce the risk of getting influenza or spreading it to others by:

- washing your hands regularly
- promptly disposing of used tissues in the waste basket or garbage
- coughing and sneezing into your shirt sleeve rather than your hands
- staying home when you are ill
- getting the influenza vaccine

The influenza vaccine can help prevent you from getting sick with influenza or from spreading it to others.

How does influenza spread?

Influenza spreads easily from person to person through coughing, sneezing, or having face-to-face contact (like kissing). The virus can also spread when a person touches tiny droplets from a cough or a sneeze on another person or object and then touches their own eyes, mouth or nose before washing their hands.

An infected person can spread the influenza virus even before feeling sick. An adult can spread the virus from about 1 day before to 5 days after symptoms start. Young children may shed the virus longer, up to 21 days after symptoms start.

Influenza (Flu) Vaccine

What is the influenza vaccine?

The influenza vaccine protects against viruses that cause influenza, often called the flu. The vaccine does not protect against other viruses or bacteria that cause colds or stomach flu.

In B.C., the vaccine is usually available in October. For your best protection, you should get the influenza vaccine as soon as possible. Your employer will make the flu vaccine avalailable to you; if you miss the flu shot clinic at your workplace, you can also get the vaccination from a pharmacy; or visit www.health.gov.bc.ca/flu/ to locate a flu shot clinic.

Who should get the vaccine?

In B.C., the influenza vaccine or flu shot is provided free to the following groups of people:

People at high risk of serious illness from influenza:

- Children 6 months to less than 5 years of age
- Pregnant women who will be in their third trimester during the influenza season
- Seniors 65 years and older
- Residents of any age living in residential care, assisted living or other group facilities

People able to transmit or spread influenza to those at high risk of serious illness from influenza including:

- Household contacts of people at high risk
- Household contacts, caregivers and daycare staff of children under 5 years of age
- Doctors, nurses and other care providers
- People who live or work in confined settings, such as correctional facilities
- Those who provide care or service to people at high risk in potential outbreak settings such as cruise ships

What are the benefits of getting the influenza vaccine?

The vaccine is the best way to protect against influenza, a serious and sometimes fatal infection. When you get immunized, you help protect others as well by reducing the spread of the influenza virus.

Who should *not* get the influenza vaccine?

Speak with your health care provider if you:

- had a life-threatening reaction to a previous dose of influenza vaccine, or any component of the vaccine
- had severe oculo-respiratory syndrome after a previous flu shot
- developed Guillain-Barré Syndrome (GBS) within 8 weeks of getting any influenza vaccine
- have a serious allergy to eggs. People with mild egg allergies can be safely immunized with the influenza vaccine.

Why Seniors Should Get the Influenza (Flu) Vaccine

What should seniors know about the influenza vaccine?

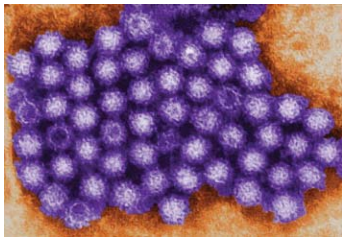
The influenza or flu vaccine is a safe and effective way to help people stay healthy, prevent illness, and even save lives. As people age, they may be at higher risk of complications from influenza. For this reason, seniors age 65 years and older are advised to get an influenza vaccine each year. The influenza vaccine is provided free to seniors. Contact your health care provider or local public health unit to get your influenza vaccine.

The influenza vaccine is safe. The influenza vaccines contain dead influenza viruses that cannot cause the flu. Common reactions to the vaccine include redness or soreness for 1 or 2 days where the vaccine was given.

Mild symptoms may occur in some people after being immunized, especially those receiving the influenza vaccine for the first time. Symptoms can include fever, headache and aching muscles, and can start within 6 to 12 hours and end within 24 to 48 hours after the vaccine was given. These symptoms are less severe and last a shorter time compared to influenza infection.

Norovirus (Stomach Flu)

What is Norovirus?



Norovirus is a group of viruses that cause acute gastroenteritis, often called the stomach flu or winter vomiting disease. Even though it is called "stomach flu", it is not influenza, which is a respiratory infection caused by the influenza virus.

Norovirus outbreaks occur in B.C. communities every year. Outbreaks of illness are common in nursing homes, daycare centres, schools, 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 1 to 3 days. Complications may 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 people 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 become infected by swallowing tiny droplets from the air.

The virus can also be spread on 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 or fingers 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.

How can the virus be prevented?

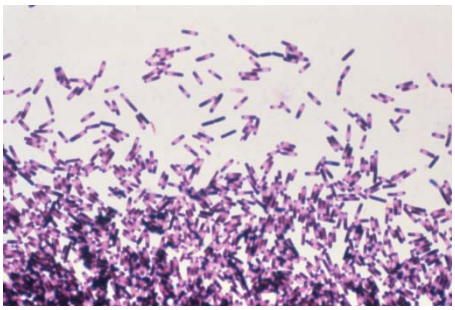
- There is no vaccine or medication that can prevent norovirus infection.
- The key to preventing the virus or reducing it from spreading is hand washing, especially after using the toilet, changing diapers or before eating or preparing food. Proper hand washing requires warm running water, soap and cleansing of the hands for about 30 seconds. Bathrooms used by sick people should be disinfected with a dilute bleach solution (1 part household bleach to 9 parts water).
- 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 soiled with vomit or diarrhea should also be washed with hot water and detergent.
- People who are ill and work as food handlers or care providers should stay away from work while they are sick and for 2 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 2 weeks. Be sure to wash hands carefully and often.

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.
- 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 by mixing 1 part of bleach to 9 parts 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.

Clostridium difficile (*C.difficile*)



What is *C.difficile*?

C. difficile, also known as C .diff or CDI, are bacteria that live in the intestines of 1% to 3 % of people. Your intestines also normally contain many good bacteria that help you digest food and stay healthy.

When antibiotics are taken for other medical conditions, these good bacteria can be killed. C. diff bacteria can survive and cause you to become sick. C. diff produces a toxin that can cause damage to the cells in the intestines; the most common symptom is diarrhea.

C. diff is the most frequent cause of infectious diarrhea in hospitals and health care facilities. The reported number of healthcare-associated C. diff infections in Canada has risen over the last decade in hospitals, and is linked with an increase in illnesses and sometimes death.

How is C. diff spread?

C. diff bacteria and their spores are found in feces. These hardy spores can live outside your body for weeks or months. They may be found on items you touch such as bed linens, bed rails, bathroom fixtures, and medical equipment.

You can become infected if you touch a surface contaminated with feces and then touch your mouth, or if you ingest (eat or drink) something that is contaminated.

Healthcare workers, staff and visitors can spread the infection to you if their hands have come in contact with the C. diff bacteria, and they have not properly cleaned their hands before touching you, or touching items that you might ingest.

C. diff bacteria cannot pass through the air. **You cannot catch C. diff from someone sneezing or coughing**.

How can *C. difficile* be prevented?

The best way to stop the spread of infection is to regularly wash your hands with soap and water, especially after using the toilet and before you eat.

If you develop symptoms, such as diarrhea, that are either confirmed or suspected to be from C. diff, you will be moved to a room by yourself. You will also be put on contact precautions to try to prevent spreading the infection to others.

Methicillin-Resistant Staphylococcus Aureus (MRSA)

What are Methicillin-Resistant Staphylococcus Aureus (MRSA)?

Staphylococcus aureus (SA) are bacteria found in the nose or on the skin of approximately 3 out of 10 healthy people. Most people do not know that they are carrying SA bacteria.

When these bacteria are in your nose or on the surface of your skin, they will not normally harm you. However, if SA does get into or through your skin, they can cause a variety of infections, such as skin and wound infections. Sometimes, SA can cause serious infections in your blood, lungs or other tissues.

Methicillin-resistant Staphylococcus aureus (MRSAs) are types of SA that have become resistant to some antibiotics that are used to treat SA infections. MRSA are not easier to catch and do not cause more severe infections than other SA.

How is MRSA spread?

Because SA can be on the surface of the skin, the most common way MRSA spreads from person to person is by direct contact.

A much less common way it can spread is by touching surfaces such as railings, faucets, or handles that may be contaminated with MRSA.

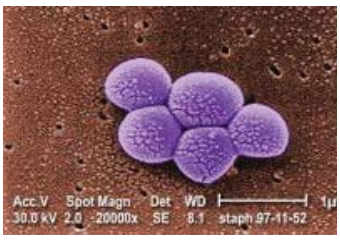
If you have MRSA, you can prevent the spread by keeping wounds covered, washing your hands regularly, and not sharing personal items such as towels, washcloths, razors, clothing, or uniforms that may have had contact with a contaminated wound or bandage.

What are my chances of getting infected with MRSA?

If you are healthy your chances of becoming sick with MRSA are low, even if you have been in contact with someone with MRSA. You may be at higher risk if you have had long-term, frequent, or intensive use of antibiotics. You may also be at higher risk if you have had intensive hospital care or surgery, particularly in hospitals where previous cases of MRSA have been reported. Injection drug users and people with long-term illnesses are also at higher risk.

How can I prevent MRSA infections?

There is no vaccine to protect you from MRSA. The most important thing you can do is wash your hands before eating, drinking, smoking or applying personal care products, touching your face, nose or eyes, and after using the toilet. Wash your hands well for at least 15 seconds using warm water and soap. Use a paper towel to dry your hands. If you are not near a sink alcohol hand rubs can be used effectively as long as your hands are not visibly dirty.



Some bacteria can survive on surfaces like railings, faucets and handles for days or even months. Regular cleaning of these surfaces with a household cleaner can also help reduce the spread of bacteria.

Pneumonia

What is pneumonia?

Pneumonia is a form of acute respiratory infection that affects the lungs. The lungs are made up of small sacs called alveoli, which fill with air when a healthy person breathes. When an individual has pneumonia, the alveoli are filled with pus and fluid, which makes breathing painful and limits oxygen intake.

Pneumonia is caused by a number of infectious agents, including viruses, bacteria and fungi. The most common are:

- Streptococcus pneumoniae – the most common cause of bacterial pneumonia
- Haemophilus influenzae type b (Hib) – the second most common cause of bacterial pneumonia
- respiratory syncytial virus is the most common viral cause of pneumonia

How is Pneumonia Spread?

Pneumonia can be spread in a number of ways. The viruses and bacteria that are commonly found in people's nose or throat, can infect the lungs if they are inhaled. They may also spread via droplets from a cough or sneeze.

Risk factors

While most healthy people can fight the infection with their natural defences, people whose immune systems are compromised are at higher risk of developing pneumonia.

Chronic illnesses also increase a person's risk of contracting pneumonia.

Treatment

Pneumonia caused by bacteria should be treated with antibiotics. Most cases of pneumonia require oral antibiotics Hospitalization is recommended only for severe cases of pneumonia.

Pneumococcal polysaccharide vaccine

The pneumococcal polysaccharide vaccine protects against 23 types of pneumococcal bacteria. The vaccine is approved by Health Canada.

Some people are at high risk of getting sick from pneumococcal infections. The vaccine is provided free to these people, including:

- Seniors 65 years and older
- Residents of any age living in residential care, assisted living or other group facilities.

Meningitis

Meningitis is inflammation of the meninges, the covering of the brain and spinal cord. It is most often caused by infection (bacterial, viral, or fungal).

Meningococcal meningitis is a bacterial form of meningitis, a serious infection of the meninges that affects the brain membrane. It can cause severe brain damage and is fatal in 50% of cases if untreated.

How is Meningitis Spread?

The bacteria are transmitted from person-to-person through droplets of respiratory or throat secretions from carriers. Close and prolonged contact – such as kissing, sneezing or coughing on someone, or living in close quarters with an infected person (a carrier) may help the spread of this disease. The average incubation period is four days, but can range between two and 10 days.

Symptoms

The most common symptoms are a stiff neck, high fever, sensitivity to light, confusion, headaches and vomiting. Even when the disease is diagnosed early and adequate treatment is started, 5% to 10% of patients die, typically within 24 to 48 hours after the onset of symptoms. Bacterial meningitis may result in brain damage, hearing loss or a learning disability in 10% to 20% of survivors. Meningococcal disease is potentially fatal and should always be viewed as a medical emergency. Admission to a hospital or is necessary, although isolation of the patient is not necessary. Appropriate antibiotic treatment must be started as soon as possible.

Diagnosis

Initial diagnosis of meningococcal meningitis can be made by clinical examination followed by a lumbar puncture showing a purulent spinal fluid. The bacteria can sometimes be seen in microscopic examinations of the spinal fluid. The diagnosis is supported or confirmed by growing the bacteria from specimens of spinal fluid or blood, by agglutination tests or by polymerase chain reaction (PCR). The identification of the serogroups and susceptibility testing to antibiotics are important to define control measures.

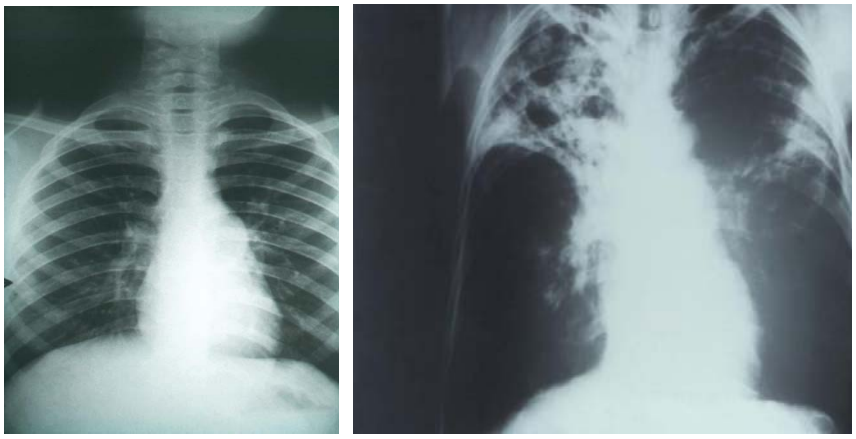
Prevention

Meningococcal vaccines are available, but not part of the publicly funded routine schedule of childhood immunizations in B.C. This is because meningococcal diseases are not very common; the vaccine is only recommended for people with certain health conditions.

You can learn more about this at http://www.healthlinkbc.ca/healthfiles/hfile23b.stm.

Tuberculosis (TB)

Tuberculosis, also known as TB, is caused by germs that are spread through the air when a person with TB exhales or coughs. Anybody nearby is at risk of breathing these air-borne germs into their lungs. TB usually affects the lungs, but it can also affect other parts of the body, like glands, bones, joints, kidneys, the brain, and reproductive organs. A person with TB can die if they do not get treatment.



How does TB spread?

When TB germs are expelled into the air, they can stay in the air for several hours, depending on the environment. As the air containing the TB germs is breathed in by other people, the germs can attack the lungs and grow. This can cause damage to the lungs and the germs can then spread to other people. TB from parts of the body other than the lungs is not likely to spread to others.

What is the difference between TB infection and TB disease?

TB infection occurs when you breathe TB germs into your lungs and your body's defenses stop the germs from growing. A person *infected* with TB will not feel sick, and **cannot spread TB germs** to others. This is also called *Latent TB* infection.

TB disease occurs when you breathe the germs into your lungs and the germs start to grow and become active. You may or may not feel sick, but **when you have the disease you can spread TB germs to those around you**. This is also called *Active TB*. Symptoms may include a cough lasting longer than 3 weeks, loss of appetite, weight loss, fatigue, fever or night sweats. If the disease is in your lungs you may also have chest pains and shortness of breath.

How long must I be exposed to TB before I can become infected?

Usually a significant amount of exposure is needed to become infected with TB. However, this depends on many factors such as how infectious the case is, the age and the immune system of the exposed person, and the ventilation in the place where the exposure occurred. Therefore, if you think you have been exposed to TB, you should speak to your doctor or health care provider.

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

If you have Latent TB infection, you have a 5 to 10 per cent chance of developing Active TB disease over your lifetime. However, if your body's resistance to infection is lowered, there is a higher risk you can develop Active TB disease.

You can reduce your risk of Latent TB infection developing into Active TB disease by using preventive treatment for 9 months. Speak to your doctor or health care provider about preventative treatment.

How can I be tested for TB?

A tuberculin skin test is used to test for Latent TB infection. It is not routinely used to test for Active TB disease. It is a two-part test. A tiny 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. If the area gets itchy, do not scratch it, instead apply ice.

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.

Active TB is typically tested by examining the mucous produced from your cough. It is sent to a laboratory, and tested to see if there are TB germs present.

Where can I get tested?

You can get tested at your local health unit, your doctor, or at a TB clinic.

Shingles

Shingles is a painful skin rash with blisters. It is caused by the varicella zoster virus, the same virus that causes chickenpox. In some people who have had chickenpox, the virus becomes active again later in life and causes shingles. About 1 out of 3 people will get shingles in their lifetime.

Shingles is more common in people over 50 years of age or in those with immune systems weakened by medication or disease.

Shingles usually appears as a rash on one side of the face or body. The rash may last for 2 to 4 weeks. Before the rash appears, some people may experience pain, itching or tingling of the skin. Other early symptoms of shingles include fever, headache, nausea, and chills. The most common symptom of shingles is pain which can be severe.

About 1 in 5 people who get shingles may have severe pain that lasts months to years after the rash has cleared. This is known as post-herpetic neuralgia.

Rare complications of shingles include pneumonia, loss of hearing or vision, scarring, inflammation of the brain (encephalitis) or death.

You cannot get shingles from someone who has shingles. However, it is possible for someone who has not had chickenpox or the chickenpox vaccine to get chickenpox from someone with shingles. This is uncommon and requires direct contact with the fluid from the shingles blisters.

What is the shingles vaccine?

The shingles vaccine protects against herpes zoster, more commonly referred to as shingles. Shingles are caused by the varicella zoster virus, which also causes chickenpox. The vaccine is approved by Health Canada.

Who should get the shingles vaccine?

The shingles vaccine is recommended for people 60 years of age and older, however anyone 50 years of age and older can get the vaccine. Only 1 dose is needed for protection.

Vancomycin-Resistant Enterococci (VRE)

What are Vancomycin-Resistant Enterococci (VRE)?

Enterococci are bacteria found in the stomach and bowels of about 19 out of every 20 healthy people. They are also normally found in the mouth and the throat, the female genital tract and on skin around the anal area. Human stools (bowel movements) have the highest levels of these bacteria. The bacteria can be present in or on the body but usually do not cause illness. Occasionally Enterococci can get into open wounds or skin ulcers, and cause infection. Less often, they can cause more serious infections of the blood, urinary tract or other body tissues. Vancomycin is an antibiotic medication that is used to treat enterococcal infections when other antibiotics do not work because of resistance.

Vancomycin-Resistant Enterococci (VRE) are enterococci that have become resistant to vancomycin. That means vancomycin cannot be used as a treatment because it will not work. VRE are not easier to catch and do not cause more severe infections than other enterococci, but they are much more difficult to treat.

How is VRE spread?

The most common way VRE spreads from person to person is by direct contact, usually with the hands. A less common way it can spread is by touching surfaces such as railings, faucets or handles that may have been contaminated with VRE.

If your hands become contaminated, the VRE bacteria can enter your body if you put your hands into your mouth or eat something without first washing your hands. VRE can also be spread if you eat food that is contaminated with VRE. Food can be contaminated if the person preparing the food does not wash their hands before making and serving the food.

What are your chances of getting VRE?

If you are healthy and living in the community, your chances of becoming infected with VRE are low, even if you have been in contact with someone with VRE. You may be at higher risk if you have been treated with frequent doses of vancomycin before, or if you have stayed for a long time in a hospital where there have been previous VRE cases. Patients whose immune systems are suppressed are also at greater risk of getting sick from VRE.

Currently in Canada, VRE infections are very uncommon. Most people are identified as carriers of VRE by routine testing of skin and anal swabs done before or during a stay in hospital. Others may be identified when testing is done if a VRE infection occurs.

How can you prevent VRE infections?

There is no vaccine to protect you from VRE. The most important thing you can do is wash your hands before eating, drinking, smoking or applying personal care products, and after using the toilet. Scrub your hands well for at least 20 seconds using warm water and soap, and use a paper towel to dry your hands. 60-90% alcohol-based hand rub can also be used.

Bacteria can survive on surfaces like railings, faucets and handles for up to 7 days. Routine cleaning of these surfaces with regular household cleaners can also help reduce spread of bacteria.

Vaccinations

Why is immunization important for health care workers?

Healthcare workers are at risk of exposure to infectious diseases while at work. Many diseases can be prevented with immunization. Getting immunized protects your health and prevents the spread of disease between you and your residents, and between you and your family and friends.

What routine immunizations are recommended in B.C.?

The vaccines recommended for healthcare workers are:

- Diptheria, tetanus, and pertussis (TDaP)
- Polio
- Hepatitis B
- Measles, mumps, and rubella (MMR)
- Varicella (chicken pox)
- Influenza

Immunization of employees is the responsibility of the Occupational Health department or assigned staff in the workplace. The employer and employee should keep records of all immunizations and laboratory test results.

If you'd like more information about vaccinations, including what ones your family should have, the PICNet website has links to lots of great information, including the table on the next page from HealthlinkBC, at www.**s.picnet.ca**/immunization.

Get those germs before they get you!

Vaccinations for Adults (recommended and optional)

Vaccine:	Recommended and available for free:	Recommended and available at cost:	Available at cost:
Chickenpox	Adults who have not had two doses of vaccine or the disease		
Hepatitis A	Adults with medical, occupational, or lifestyle risks		Adults who want protection
Hepatitis B	Adults with medical, occupational, or lifestyle risks		Adults who want protection
HPV vaccine (Bivalent)	Limited one time only program for young women born in 1991-1993	Women ≤ 25 years of age	Women > 25 years of age
HPV vaccine (Quadrivalent)	Women born in 1994 or later	Women and men ≤ 26 years of age Men who have sex with men	Women > 26 years of age
Influenza	Adults with medical, occupational, or lifestyle risks Adults ≥ 65 years of age	Adults who want protection	
Measles/Mumps/ Rubella	Adults who have not had two doses of the vaccine or the disease(s)		
Meningococcal C Conjugate	Adults born in 1988 or later		Adults who want protection
Meningococcal Quadrivalent Conjugate	Adults who are medically high risk	Adults with occupational risks (the cost of the vaccine may be covered by your employer)	Adults who want protection
Pertussis (Whooping Cough)		Adults, once in a lifetime	
Pneumococcal conjugate			Adults ≥ 50 years of age
Pneumococcal polysaccharide	Adults with medical or lifestyle risks Adults ≥ 65 years of age	Adults who are smokers.	Adults who want protection
Shingles		Adults > 60 years	Adults 50-59 years of age
Tetanus, Diphtheria	Adults, every 10 years		
Travel vaccines		Varies by destination, consult with a travel health clinic	

Glossary

Word	Definition
antibody	An antibody is a protein produced by white blood cells that is used by the immune system to identify bacteria and viruses that enter our bodies. Antibodies bind to these microbes or an infected cell for attack by other parts of the immune system. They may also neutralize the microbe directly. The production of antibodies is the main function of the humoral immune system.
antigen	An antigen is a foreign body or toxin (e.g. a microbe) which, once in enters the body, attracts and is bound by a specific antibody. That is to say, an antigen is something that causes an immune response in the body.
bacteria	Bacteria are single cell micro-organisms. They are typically a few micrometres in length and have a number of shapes, ranging from spheres to rods and spirals. Bacteria are present in most of its habitats including soil and water. In the human body bacteria out number human cells ten to one. The majority of them do not make us sick – in fact, we give them a place to live and many of them keep us alive.
colonization	Micro-organisms living on or in our bodies without causing illness or infection.
fungus	A fungus is a member of a large group of organisms that includes micro-organisms such as yeasts and moulds as well as the more familiar mushrooms. Many fungi (mostly yeasts and moulds) live in our environment and on our bodies. Again most of the organisms don't cause illness unless they are able to invade areas where they are not normally found (e.g. in the lungs or under the skin).
germ	See *micro-organism*
infection	Infection is the invasion of the body tissues by pathogens, allowing them to multiply and cause a reaction of the immune system to their presence of the toxins they produce.
micro-organism	Microscopic, sometimes single cell organisms including bacteria, fungus and viruses. A small proportion are pathogenic (i.e. can cause disease).
pathogen	a micro-organism such as a virus, bacterium, or fungus, that can cause disease
vaccination	Vaccination involves giving an antigen to a person in order to stimulate their immune system to develop specific antibodies to a pathogen.
virus	Viruses are infectious agents that reproduce inside the living cells of other organisms. They are unable to reproduce on their own but require the mechanisms of living cells to do so.

Questions?
Contact us!

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PICNet
PROVINCIAL INFECTION CONTROL NETWORK OF BRITISH COLUMBIA
A program of the Provincial Health Services Authority

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