



Guide to Wise Use of Antibiotics

Managing Coughs, Colds, Sneezes & Germs

**DO
BUGS
NEED
DRUGS?**

 **Alberta Health
Services**

Antibiotic Resistance

What is antibiotic resistance?

- **Any use of antibiotics**, whether for the right or wrong reasons, can lead to antibiotic resistance. To limit development of antibiotic resistance, **antibiotics should only be used when really needed**.
- Antibiotic resistance is a defense mechanism of bacteria that allows them to survive and multiply, even when an antibiotic is present. Bacteria that have antibiotic resistance are sometimes called **“superbugs”**.
- When bacteria have antibiotic resistance, antibiotics that worked in the past do not work anymore.
- Infections caused by antibiotic resistant bacteria are difficult and sometimes impossible to treat. This can result in longer illness and possibly death.
- Remember, the bacteria are resistant — NOT YOU! Even very healthy people who have never taken antibiotics can become infected with antibiotic resistant bacteria from other sources.

*Antibiotics **will not help** for viral infections, such as colds, influenza, and bronchitis (chest colds).
Using antibiotics for these infections can
lead to antibiotic resistance.*

What should you do?

- **Do not expect** to get antibiotics when you or your child has a cold or cough. Most of these infections are caused by viruses and antibiotics will not help.
- Discuss with your doctor whether your infection is viral or bacterial and whether an antibiotic is needed.
- Be patient when you (or your child) have cold symptoms, cough, or a sore throat. Most viral illnesses will take 4–5 days before getting better and up to 3 weeks for a full recovery.
- During cold or flu season, wash your hands frequently to avoid getting sick. Follow our detailed handwashing advice on the next page.

***Avoid a battle with a
SUPER RESISTANT BUG.
Use antibiotics wisely!***

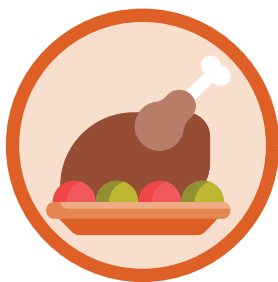


Handwashing

Handwashing is the best way to stop the spread of infections.
80% of common infections can be spread by hands.

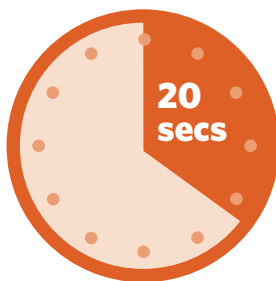
When to wash your hands:

- Before meals
- Before, during, and after preparing food
- Before breastfeeding
- After using the toilet or helping a child use the toilet
- Before and after changing diapers or feminine hygiene products
- After blowing your nose or wiping a child's nose
- After handling objects shared with others
- Before inserting or removing contact lenses
- Before and after you care for someone who is sick
- After touching or feeding an animal, or handling animal waste
- Before and after flossing your teeth



How to wash hands:

1. Use soap and water. Washing with water alone does not get rid of germs.
2. Wet your hands.
3. Apply plain soap. **Do not use antibacterial soap.**
4. Rub your hands together for at least 20 seconds (or the time it takes to sing *Twinkle, Twinkle, Little Star*). Rub all parts of your hands including your palms, between fingers, thumbs, backs, wrists, fingertips, and nails.
5. Rinse your hands for 10 seconds.
6. Dry your hands thoroughly with a clean towel.



What you should do:

- Expect doctors, dentists, nurses, and therapists to wash their hands before they examine you or your child.
- Make sure plain soap is available in the washroom of your child's school and your workplace.
- Make sure that childcare sites have places for adults and children to wash their hands.
- **Use plain soap.** Plain soap works just as well as antibacterial soap. Antibacterial soap is not recommended because it leads to bacterial resistance and is no more effective than plain soap.
- Teach by example.

Bacteria & Viruses

Both viruses and bacteria cause infections, but antibiotics only work against bacteria.

Viral infections

- Include colds, influenza, croup, laryngitis, chest colds (bronchitis), and most sore throats.
- Are usually more contagious than bacterial infections. If more than one person in the family has the same illness, it is likely a viral infection.
- Can make you just as sick as bacterial infections.
- Usually get better in 4–5 days but it might take as long as three weeks to fully recover.

✗ Antibiotics do not work for viral infections

Bacterial infections

- Are less common than viral infections.
- Do not spread as easily from one person to another as viral infections.
- Common examples include strep throat and some types of pneumonia.

✓ Antibiotics do work for bacterial infections, but are not always necessary

Fever

Fever is a raised body temperature, often due to illness. Skin that is red, hot, and dry, even under the armpits, is a sign of fever.

Your temperature or your child's temperature depends on where it is measured.



For a list of symptoms that should be evaluated by a medical professional, go to page 20. For a list of symptoms that are dangerous and require immediate medical attention, go to page 22.

Management:

- Fever is a protective mechanism that helps the body fight infection. Fever can occur with both viral and bacterial infections.
- Consider using acetaminophen or ibuprofen (according to the package instructions) if the person with the fever is uncomfortable.
- Dress yourself or your child in lightweight clothing so that you are cool but not shivering, as shivering generates more heat. Keep room temperature about 20° C or comfortably cool.
- Drink plenty of cool fluids. Offer cool fluids or popsicles to your child every hour when awake.

Fever:

- Helps the body fight infection
- Can occur with both viral and bacterial infections

If a person of any age has a fever and rash and has been in an area where measles is circulating, contact Health Link (dial 811 in Alberta) to receive advice on the best course of action.

Colds & Runny Nose



Colds are caused by viruses. There are about 200 different viruses that cause colds. Children can get 8–10 colds per year. Adults get fewer colds because they have built up immunity against some of the viruses. Antibiotics do not work against cold viruses.



For a list of symptoms that should be evaluated by a medical professional, go to page 20. For a list of symptoms that are dangerous and require immediate medical attention, go to page 22.

Symptoms:

- At the beginning, headache, fever, and watery eyes, followed by runny nose, sore throat, sneezing, and cough.
- Fluid from the nose is clear at first but turns thick yellow or green.

Management:

- Drink plenty of water, at whatever temperature is most soothing.



Prevention:

- Wash your hands to prevent spread of the viruses that cause colds.
- Teach your children to wash their hands.

- Consider using acetaminophen or ibuprofen (according to the package instructions) if the person with the cold is uncomfortable.
- If you have a cold or are caring for someone with a cold, wash your hands often to prevent infecting others.
- A decongestant or cough syrup might help symptoms but will not shorten the length of the cold.

NOTE: Do not give these products to infants or children under the age of six years.

NOTE: Decongestants and cough syrup might also contain fever reducing medication. Read labels carefully and check with your pharmacist or doctor to avoid overdosing.

Use salt-water (saline) nose drops to treat stuffiness, especially for infants and toddlers. Use commercial salt-water drops or spray or **make your own**.



Homemade Salt Water Drops

Mix together:

- 1 cup (240 mL) distilled water (if using tap water, boil for one minute to sterilize first then cool until lukewarm)
- ½ tsp (2.5 g) salt
- ½ tsp (2.5 g) baking soda

Place the solution in a clean bottle with a dropper, or a squeeze bottle (available at pharmacies). You can also use a bulb syringe. Make a fresh solution every 3 days.

To use:

- Sit down and tilt your head back slightly. Do not lie down. Put the tip of the dropper, bulb syringe, or squeeze bottle a little way into one nostril. Gently drip or squirt a few drops into the nostril. Repeat for your other nostril. Wipe the dropper with a clean cloth or tissue after each use.

Influenza

Influenza (or flu) is caused by a virus. Adults with influenza can spread the virus to others for 3-5 days after symptoms begin. Children with influenza can spread the virus to others for up to 7 days.



Symptoms:

- Fever/chills
- Headache
- Muscle or body aches
- Feeling tired
- Sore throat
- Runny or stuffy nose/sneezing
- Cough



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Prevention:

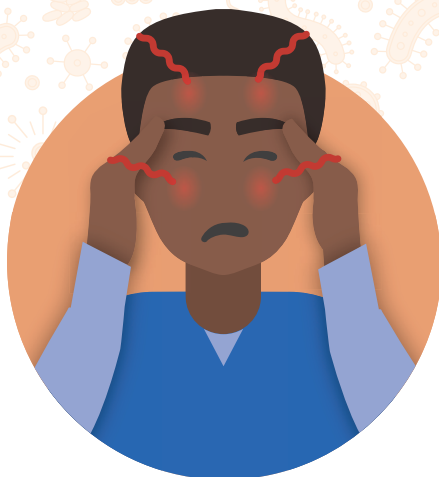
- Get an annual influenza vaccination.
- Wash your hands, especially after you are with someone who is sick. Teach your child about handwashing.
- Cover your nose and mouth when you sneeze or cough.
- Teach your child to use good respiratory etiquette.

Management:

- Drink plenty of fluids such as water.
- Get plenty of rest or allow your child to get plenty of rest. Stay at home or keep your child at home for the first few days of illness to rest and to prevent spread to others.
- Consider using acetaminophen or ibuprofen (according to the package instructions) for fever, headache, and body aches.

Influenza season usually starts in November or December each year and ends in April or May. Occasionally, influenza might lead to pneumonia.

Sinus Infection



The sinuses are air filled spaces around the nose and eyes.

Sinusitis occurs when fluid builds up in the sinuses.

Sinusitis most often occurs after a cold but most colds do not lead to bacterial sinusitis. The symptoms of sinusitis are more severe and last longer than a cold.

NOTE: If symptoms are accompanied by a sore throat and/or cough, see Colds and/or Influenza.



For a list of symptoms that should be evaluated by a medical professional, go to page 20. For a list of symptoms that are dangerous and require immediate medical attention, go to page 22.

Symptoms:

- Facial pain or pressure, headache, toothache, feeling tired, cough, fever.
- Blocked nose with yellow or green nasal discharge that lasts for more than 10 days is a sign that you may need antibiotics.

Management:

- Consider using acetaminophen or ibuprofen (according to the package instructions) for pain and fever.
- For children, use saltwater drops or spray to help relieve nasal discharge (see Colds/Runny Nose for recipe on Page 9); for adults, saline irrigation is more effective.
- Decongestants may relieve stuffiness but will not shorten the length of the illness.

NOTE: Do not give these products to infants or children under the age of six years.

NOTE: Decongestants might also contain fever reducing medication. Read labels carefully and check with your pharmacist or doctor to avoid overdosing.

*Both bacteria and viruses can cause sinusitis
(viruses are up to 200 times more common).*

Sore Throat

A sore throat often comes with a cold. Most sore throats are caused by viruses. An antibiotic will not help a sore throat caused by a virus.

Some sore throats are caused by Streptococcus bacteria. If a sore throat is accompanied by a runny nose, cough, hoarseness, pinkeye, or diarrhea, it is likely due to a virus and NOT strep throat.



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Your doctor cannot tell if a sore throat is strep throat just by looking at it.

- If the sore throat is part of a cold, it is most likely caused by a virus and a throat swab is not needed.
- If you do not have signs of a cold, your doctor might take a throat swab to show whether the sore throat is caused by bacteria or a virus. The test results are usually ready within 48 hours.

- If the test results are negative, antibiotics will not work because the sore throat is likely caused by a virus.
- If the test results are positive, your doctor might decide to prescribe an antibiotic.
- Other family members do not need to be tested unless they are sick.

Management:

- Drink plenty of fluids such as water.
- Consider using acetaminophen or ibuprofen (according to the package instructions) for throat pain and fever.
- For children six years of age and older and adults, plain throat lozenges may relieve symptoms.

NOTE: Younger children should not be given lozenges because of the danger of choking.

- For older children and adults, gargling with warm salt water will make the throat feel better. Mix $\frac{1}{2}$ tsp table salt with 1 cup (250 ml) warm water. Gargle for 10 seconds. May be done 4-5 times per day.
- You or your child can go back to normal activity when feeling better.

Ear Ache

The Eustachian tube connects the middle ear and the back of the throat. Because this tube is narrow in young children, it can become blocked, especially with a cold. This blockage can lead to an infection.

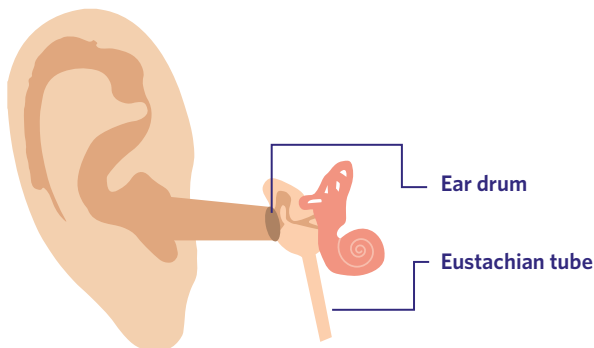
It is important to note that 70-80% of children who have an ear infection will get better without an antibiotic. Some ear infections are due to viruses and some are due to bacteria. Watchful waiting is a reasonable approach that your doctor might recommend.



For a list of symptoms that should be evaluated by a medical professional, go to page 20. For a list of symptoms that are dangerous and require immediate medical attention, go to page 22.

Symptoms:

- Fever
- Ear pain
- Irritability



Management:

- Consider using acetaminophen or ibuprofen (according to the package instructions) for pain and fever.
- Place a warm cloth over the outside of the ear.
- Antihistamines and decongestants do not help an ear infection.
- Under certain circumstances your doctor may prescribe antibiotics after examination of your child's ears.
- Because of the risk of antibiotic resistance, it is no longer recommended to give antibiotics for prolonged periods to prevent ear infections.



Prevention:

- Wash your hands frequently and teach your child about handwashing since most ear infections occur after a cold.
- Avoid exposing your child to second hand smoke.
- Do not give your child a bottle to drink while lying down.

Cough

Most coughs in adults and children are caused by viral infections of the respiratory tract (see chart below). Antibiotics should be used for a cough only if the patient has pneumonia due to bacteria or tests positive for pertussis (whooping cough).



Symptoms:

- Fever, cough, and chest pain.
- Coughing up mucus that may be yellow or green. This does not mean it is a bacterial infection.
- Wheezing may occur.

NOTE: With viral bronchitis, 45% of people still cough after 2 weeks. 25% of people still cough after 3 weeks

For a list of symptoms that should be evaluated by a medical professional, go to page 20. For a list of symptoms that are dangerous and require immediate medical attention, go to page 22.

Illness	Site	Age Group	Cause
Laryngitis	Vocal cords	Older Children / Adults	Virus
Croup	Vocal cords and windpipe	Younger Children	Virus
Bronchitis*	Breathing tubes (large)	Older Children / Adults	Virus
Bronchiolitis	Breathing tubes (small)	Infants	Virus
Pneumonia	Air sacs	All ages	Bacteria or virus
Whooping cough	Nose to lungs	Any Age	Bacteria

**Patients with severe long-term lung disease sometimes get a bacterial infection when they get bronchitis.*

Management:

- Drink plenty of fluids such as water.
- Cough suppressants may help older children and adults.

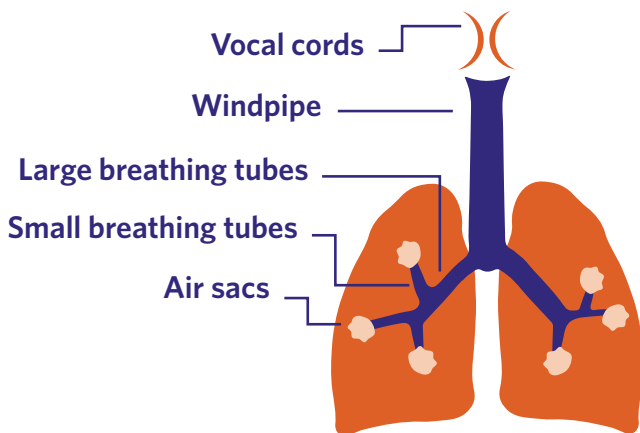
NOTE: Do not give these products to infants or children under the age of six years.

NOTE: Cough syrup might also contain fever reducing medication. Read labels carefully and check with your pharmacist or doctor to avoid overdosing.

- Plain cough drops or lozenges may help older children and adults. Avoid antibacterial cough drops because they can lead to antibiotic resistance.

NOTE: Cough drops should not be given to children less than six years of age because of the risk of choking.

- A chest x-ray is recommended to diagnose bacterial pneumonia. Once the diagnosis is made, antibiotics are normally prescribed.



Serious Symptoms That Should be Seen by a Medical Professional

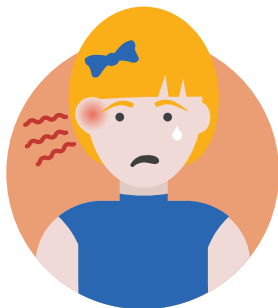
These symptoms require the attention of a doctor or nurse practitioner.



Fever:

- If a child under 3 months has a fever, they should be seen right away.
- If a child of any age has a fever and seems unwell, they should be seen right away.
- If a child of any age has a fever for more than 3 days, they should be seen within 24 hours.

Serious Symptoms That Should be Seen by a Medical Professional Continued:



Earache *See a doctor if a child has an earache and:*

- They also have a high fever; or
- They seem unwell; or
- They have redness or swelling behind the ear; or
- Their ear is pushed forwards; or
- Their earache remains severe for more than 24 hours despite using acetaminophen/ibuprofen.

Adults with fevers or other illnesses should always consider consulting their doctor or nurse practitioner if symptoms worsen or are unusually severe.

In Alberta, you can call Health Link (at 811) if you need advice or are unsure of the best course of action.

For practical advice on health problems in children, visit ahs.ca/heal, a public information resource maintained by the Stollery Children's Hospital.

Signs of Health Emergencies



If you or someone you are caring for show any of these symptoms, please seek medical attention immediately.



Fever

Seek immediate medical attention if:

- A person of any age with a fever is very irritable or lethargic (difficult to wake up or keep awake), is vomiting over and over, and may have a stiff neck or an extensive rash that does not go away when you press on the spots (that may look like small bruises).



Breathing

Seek immediate medical attention if:

- A sick person of any age is having trouble breathing (not caused by a stuffy nose).
- A sick person is breathing much faster or slower than usual, or has blue lips, hands, or feet.

Signs of Health Emergencies Continued:



General Condition

Seek immediate medical attention if:

- A sick person of any age is difficult to wake up or to keep awake or is more confused, irritable, or agitated than normal, has a severe headache that will not go away, has a stiff neck, has mottled or very pale skin or seems cold to the touch.
- A sick person has signs of dehydration which include dry skin, dry mouth, a sunken soft spot (fontanelle) in a baby, or has very little urine.

Other reasons to seek immediate medical attention include:

- If a sick person has difficulty swallowing or excessive drooling.
- If a sick person of any age is limp, unable to move, or has a seizure.

This information is given as a reference only. At all times, you must use your own knowledge and judgement as to whether you need to talk to a doctor, nurse, or nurse practitioner.

In Alberta, you can call Health Link (dial 811) if you need advice or are unsure of the best course of action.

Did you know?

1. Handwashing is the best way to stop the spread of infections.
2. Bacteria and viruses are different. Both can cause infections but antibiotics only work against bacterial infections.
3. Use antibiotics wisely to limit development of antibiotic resistance.



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Do Bugs Need Drugs is a program of Alberta Health Services
and the British Columbia Centre for Disease Control