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HALDIMAND-NORFOLK HEALTH UNIT

COMMUNICATION MATTERS

A NEWSLETTER FOR PARENTS, TEACHERS, EARLY LEARNING PROVIDERS AND CAREGIVERS OF PRESCHOOL-AGED CHILDREN.

Ear Infections

(adapted from www.kidshealth.org)

After the common cold, ear infections are the most frequently diagnosed childhood illness in the United States. Most kids will have had at least one ear infection by the time they're 3 years old.

A Close Look at the Ear

To understand how ear infections develop, let's review how the ear works.

Think about how you can feel speakers vibrate as you listen to your favorite CD in the car or how you feel your throat vibrate when you speak. Sound, which is made up of invisible waves of energy, causes these vibrations. Every time you hear a sound, the various structures of the ear have to work together to make sure the information gets to the brain.

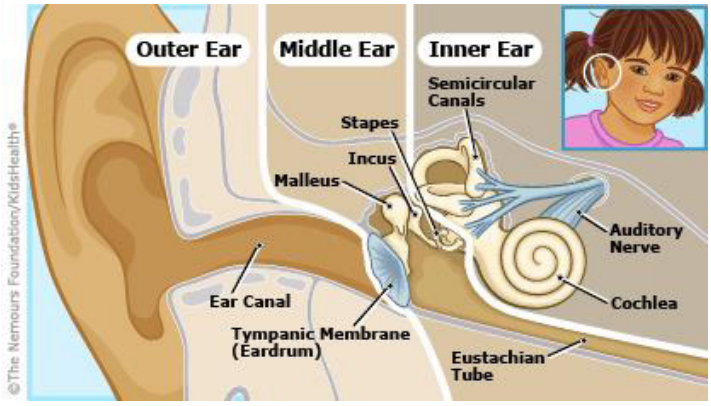
The ear is responsible for hearing and balance and is made up of three parts — the outer ear, middle ear, and inner ear. Hearing begins when sound waves that travel through the air reach the outer ear, or pinna, which is the part of the ear that's visible. The sound waves then travel from the pinna through the ear canal to the middle ear, which includes the eardrum (a thin layer of tissue) and three tiny bones called ossicles. When the eardrum vibrates, the ossicles amplify these vibrations and carry them to the inner ear.

The inner ear translates the vibrations into electric signals and sends them to the auditory nerve, which connects to the brain. When these nerve impulses reach the brain, they're interpreted as sound.

The Eustachian Tube

To work as it should, the middle ear must be at the same pressure as the outside world. This is taken care of by the eustachian tube, a small passage that connects the middle ear to the back of the throat behind the nose.

By letting air reach the middle ear, the eustachian tube equalizes the air pressure in the middle ear to the outside air pressure. (When your ears "pop" while yawning or swallowing, the eustachian tubes are adjusting the air pressure in your middle ears.) The eustachian tube also allows for drainage of mucus from the middle ear into the throat.



Sometimes, the eustachian tube may malfunction. For example, when someone has a cold or an allergy affecting the nasal passages, the eustachian tube may become blocked by congestion in its lining or by mucus within the tube. This blockage will allow fluid to build up within the normally air-filled middle ear.

Bacteria or viruses that have entered the middle ear through the eustachian tube also can get trapped in this way. These germs can breed in the trapped fluid, eventually leading to an ear infection.

About Middle Ear Infections

Inflammation in the middle ear area is known as otitis media. When referring to an ear infection, doctors usually mean "acute otitis media" rather than the common ear infection called swimmer's ear, or otitis externa.

Acute otitis media means that fluid (usually pus) is in the middle ear, causing pain, redness of the eardrum, and possible fever.

In some cases, otitis media can be more chronic (with fluid in the middle ear for 6 weeks or longer) or, in **otitis media with effusion**, fluid in the middle ear can be temporary and not necessarily infected.

Doctors try to distinguish between the different forms of otitis because this affects treatment options. Not all forms of otitis need to be treated with antibiotics.

Causes

Kids are prone to developing ear infections in the first 2 to 4 years of life for several reasons:

- Their eustachian tubes are shorter and more horizontal than those of adults, which lets bacteria and viruses find their way into the middle ear more easily. The tubes are also narrower and less stiff, so more at risk for blockage.
- The adenoids, which are gland-like structures located in the back of the upper throat near the eustachian tubes, are large in children and can interfere with the opening of the eustachian tubes.

A number of other factors can contribute to kids getting ear infections, such as secondhand exposure to cigarette smoke, bottle-feeding, and childcare attendance.

Boys develop ear infections more often than girls, as do kids with a family history of ear infections. They're also more common during the winter season, when lots of people get upper respiratory tract infections or colds.

Signs and Symptoms

The signs and symptoms of acute otitis media may range from very mild to severe:

- The fluid in the middle ear may push on the eardrum, causing ear pain. Older kids are able to complain of an earache, but a younger child might just tug at the ear or simply act irritable and cry more than usual.
- Lying down, chewing, and sucking also can cause painful pressure changes in the middle ear, so a child may eat less than normal or have trouble sleeping.
- If the pressure from the fluid buildup gets high enough, it can rupture the eardrum, causing fluid to drain from the ear. This releases the pressure behind the eardrum, usually bringing relief from the pain.

Signs of Hearing Problems

Fluid buildup in the middle ear also blocks sound, which can lead to temporary hearing problems. Kids having a problem might:

- not respond to soft sounds
- need to turn up the TV or radio
- talk louder
- appear to be inattentive at school

Other symptoms of acute otitis media can include:

- fever
- nausea
- vomiting
- dizziness

However, otitis media with effusion often has no symptoms. In some kids, the fluid that's in the middle ear may create a sensation of ear fullness or "popping." As with acute otitis media, the fluid behind the eardrum can block sound, so mild temporary hearing loss can happen, but might not be obvious.

Because they're often related to upper respiratory tract infections, ear infections can be accompanied by symptoms like a runny or stuffy nose or a cough.

Contagiousness

Ear infections are not contagious, though the colds that sometimes cause them can be.

Duration

Middle ear infections often go away on their own within 2 or 3 days, even without any specific treatment. If your doctor decides to prescribe antibiotics, a 10-day course is usually recommended.

For kids 6 years of age and older with a mild to moderate infection, a shortened course of antibiotics (5 to 7 days) may be appropriate.

But even after antibiotic treatment for an episode of acute otitis media, fluid may remain in the middle ear for up to several months.

Diagnosis and Treatment

If your child might have an ear infection, see your doctor, who should be able to make a diagnosis by taking a medical history and doing a physical exam.

To examine the ear, doctors use an otoscope, a small instrument similar to a flashlight, through which they can see the eardrum. There's no single best approach for treating all middle ear infections. In deciding how to manage your child's ear infection, your doctor will consider many things, including:

- the type and severity of the ear infection
- how often your child has ear infections
- how long this infection has lasted
- your child's age
- risk factors your child may have
- whether the infection affects your child's hearing

The fact that most ear infections can clear on their own has led a number of physician associations to recommend a "wait-and-see" approach, which involves giving the child pain relief without antibiotics for a few days. Another important reason to consider this type of approach are the limitations of antibiotics, which:

- won't help an infection caused by a virus
- won't get rid of middle ear fluid
- can cause side effects
- typically do not relieve pain in the first 24 hours and have only a minimal effect after that

Also, overuse of antibiotics can lead to the development of antibiotic-resistant bacteria, which can be much more difficult to treat.

When Antibiotics Are Needed

Antibiotics can be the right treatment, though, for kids who get a lot of ear infections. Their doctors might prescribe daily antibiotics to help prevent future infections. And younger children or those with more severe illness may need antibiotics right from the start.

The "wait-and-see" approach also might not apply to children with other concerns, such as cleft palate, genetic conditions such as Down syndrome, underlying illnesses such as immune system disorders, or a history of recurrent acute otitis media.

Kids with persistent otitis media with effusion (lasting longer than 3 months) should be reexamined every 3 to 6 months by their doctors. Often, though, even these kids won't require treatment.

Whether or not the choice is made to treat with antibiotics, you can help to ease discomfort by giving your child acetaminophen or ibuprofen for pain and fever as needed. Your doctor also may recommend using pain-relieving ear drops as long as the eardrum isn't ruptured.

Some children, such as those with persistent hearing loss or speech delay, may need ear tube surgery. An ear, nose, and throat doctor will surgically insert tubes (called tympanostomy tubes) in the tympanic membrane. This lets fluid drain from the middle ear and helps equalize the pressure in the ear because the eustachian tube is unable to

Prevention

Some of the risk factors for ear infections can't be changed (such as a family history of frequent ear infections), but certain lifestyle choices can help protect kids:

- Breastfeed infants for at least 6 months to help to prevent the development of early episodes of ear infections. If a baby must be bottle-fed, hold the baby at an angle instead of lying the child down with the bottle.
- Prevent exposure to secondhand smoke, which can increase the frequency and severity of ear infections.
- While not always possible, minimizing exposure to large groups of kids (such as in childcare centers) can protect your child from some of the upper respiratory infections that can lead to ear infections.
- Parents and kids should wash their hands well and often. This is one of the most important ways to stop the spread of germs that can cause colds and, therefore, ear infections.
- Keep children's immunizations up to date because certain vaccines can help prevent ear infections.

Also be aware that research has shown that cold and allergy medications, such as antihistamines and decongestants, don't help prevent ear infections.

When to Call the Doctor

Although quite rare, ear infections that don't go away or severe repeated middle ear infections can lead to complications, including spread of the infection to nearby bones. So kids with an earache or a sense of fullness in the ear, especially when combined with fever, should be seen by their doctors if they aren't getting better.

Other things can cause earaches, such as teething, a foreign object in the ear, or hard earwax. Call your doctor to help determine the cause of your child's discomfort and how to treat it.

RECOMMENDED READING:

Check out the article on on "Creating Safe Screen Time for Your Child" on the Hanen website, http://www.hanen.org/Helpful-Info/Articles/Creating-Safe(r)-Screen-Time-for-Your-Child.aspx. Useful information for parents in this age of technology!

Our services are *fun, free and accessible*. No child is too young to be seen. With parent consent, anyone can refer. Referrals for children in Junior Kindergarten must be made before the end of JUNE of their JK year.
Don't forget to fill out our online Preschool Speech and Language Referal Form at hnhu.org/speech

Communication Matters is published biannually by the Haldimand-Norfolk Preschool Speech and Language program. It has been developed to increase awareness for services available and tips on the prevention of speech, language or hearing disorders in the preschool population. This newsletter is intended for parents, teachers and caregivers of preschool-aged children. You are invited to contact the Health Unit with your articles and ideas.

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