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## Acute Ear Infections and Your Child

Next to the common cold, an ear infection is the most common childhood illness. In fact, most children have at least one ear infection by the time they are 3 years old. Most of the time ear infections clear up without causing any lasting problems.

Read more to learn about the symptoms, treatment, and possible complications of *acute otitis media*, a common infection of the middle ear.

### How do ear infections develop?

The ear has 3 parts—the outer ear, middle ear, and inner ear. A small tube (eustachian tube) connects the middle ear to the back of the nose. When a child has a cold, nose or throat infection, or allergy, the eustachian tube can become blocked, causing a buildup of fluid in the middle ear. If bacteria or a virus infects this fluid, it can cause swelling and pain in the ear. This type of ear infection is called *acute otitis media*.

Often after the symptoms of acute otitis media clear up, fluid remains in the ear. Acute otitis media then develops into another kind of ear problem called otitis media with effusion (middle ear fluid). This condition is harder to detect than acute otitis media because except for the fluid and usually some mild hearing loss, there are often no other noticeable symptoms. This fluid may last several months and, in most cases, disappears on its own. The child's hearing then returns to normal.

### Is my child at risk for developing an ear infection?

Risk Factors for developing childhood ear infections include

- **Age.** Infants and young children are more likely to get ear infections than older children. The size and shape of an infant's eustachian tube makes it easier for an infection to develop. Ear infections occur most often in children between 3 months and 3 years of age. Also, the younger a child is at the time of the first ear infection, the greater the chance she (or he) will have repeated infections.
- **Family history.** Ear infections can run in families. Children are more likely to have repeated middle ear infections if a parent or sibling also had repeated ear infections.
- **Colds/allergies.** Colds often lead to ear infections. Children in group child care settings have a higher chance of passing their colds to each other because they are exposed to more viruses from the other children. Allergies that cause stuffy noses can also lead to ear infections.
- **Tobacco smoke.** Children who breathe in someone else's tobacco smoke have a higher risk of developing health problems, including ear infections.
- **Bottle-feeding.** Babies, who are bottle-fed, especially while they are lying down, get more ear infections than breast-fed babies. If you bottle-feed your child, hold his head above the stomach level during feedings. This helps keep the eustachian tubes from being blocked.

### How can I reduce the risk of an ear infection?

Two things you can do to help reduce your child's risk of getting an ear infection are

- Breastfeed instead of bottle-feed. Breastfeeding may decrease the risk of frequent colds and ear infections.
- Keep your child away from tobacco smoke, especially in your home or car. Also, vaccines against bacteria (such as pneumococcal vaccine) and viruses (such as influenza vaccine) may reduce the number of ear infections in children with frequent infections.

### What are the symptoms of an ear infection?

Your child may have many symptoms during an ear infection. Talk with your pediatrician about the best way to treat your child's symptoms.

- **Pain.** The most common symptom of an ear infection is pain. Older children can tell you that their ears hurt. Younger children may only seem irritable and cry. You may notice this more during feedings because sucking and swallowing may cause painful pressure changes in the middle ear.
- **Loss of appetite.** Your child may have less of an appetite because of the ear pain.
- **Trouble sleeping.** Your child may have trouble sleeping because of the ear pain.
- **Fever.** Your child may have a temperature ranging from 100°F (normal) to 104°F.
- **Ear drainage.** You might notice yellow or white fluid, possibly blood-tinged, draining from your child's ear. The fluid may have a foul odor and will look different from normal earwax (which is orange-yellow or reddish-brown). Pain and pressure often decrease after this drainage begins, but this doesn't always mean that the infection is going away. If this happens, it's not an emergency, but your child will need to see your pediatrician.

### Causes of ear pain (Ear pain may not be related to an ear infection)

The following can cause ear pain:

- An infection of the skin on the ear canal, often called "swimmer's ear"
- Blocked or plugged eustachian tubes from colds or allergies
- A sore throat
- Teething or sore gums

- **Trouble hearing.** During and after an ear infection, your child may have trouble hearing for several weeks. This occurs because the fluid behind the eardrum gets in the way of sound transmission. This is usually temporary and clears up after the fluid from the middle ear drains away.

### How are ear infections treated?

Because pain is often the first and most uncomfortable symptom of ear infections, it's important to help comfort your child by giving her pain medicine. Acetaminophen or ibuprofen are over-the-counter pain medicines that may help decrease some of the pain. Be sure to use the right dosage for your child's age and weight. **Don't give aspirin to your child.** It has been associated with Reye syndrome, a disease that affects the liver and brain. There are also ear drops that may relieve ear pain for a short time. Ask your pediatrician whether these drops should be used. There is no need to use over-the-counter cold medicines (decongestants and antihistamines), because they don't help clear up ear infections.

Not all ear infections require antibiotics. Some children who don't have a high fever or aren't severely ill may be observed without antibiotics. In most cases, pain and fever will improve in the first 1 to 2 days.

If your child is younger than 2 years, has drainage from the ear, fever higher than 102.5°F, severe ear pain, unable to sleep, isn't eating, and/or is acting ill, it's important to call your pediatrician. If your child is older than 2 years and symptoms are mild, you may wait a couple of days to see if she improves.

Your child's ear pain and fever should go away within 2 to 3 days of their onset. If your child's condition doesn't improve within 2 days, call your pediatrician. Your pediatrician may wish to see your child and may prescribe an antibiotic, if one wasn't given initially. If an antibiotic was already started, your child may need a different antibiotic. Be sure to follow your pediatrician's instructions closely.

If an antibiotic was prescribed, make sure your child finishes the entire prescription. If you stop the medicine too soon, some of the bacteria that caused the ear infection may still be present and cause an infection to start all over again.

As the infection starts to clear up, your child might feel a "popping" in the ears. This is a normal sign of healing. Children with ear infections don't need to stay home if they are feeling well. A child care provider or someone at school can give them their medicine properly, if needed. If your child needs to travel in an airplane, or wants to swim, contact your pediatrician for specific instructions.

### **Sign of hearing problems**

Because your child can have trouble hearing without other symptoms of an ear infection, watch for the following changes in behavior (especially during or after a cold):

- Talking more loudly or softly than usual
- Saying "huh?" or "what?" more than usual
- Not responding to sounds
- Having more trouble understanding language in noisy rooms
- Listening with the TV or radio turned up louder than usual

If you think your child may have difficulty hearing, call your pediatrician. Being able to hear and listen to others talk helps a child learn speech and language. This is especially important during the first few years of life.

### **Are there complications from ear infections?**

Although it's very rare, complications from ear infections can develop, including the following:

- An infection of the inner ear that causes dizziness and imbalance (labyrinthitis)
- An infection of the skull behind the ear (mastoiditis)
- Scarring or thickening of the eardrum
- Loss of feeling or movement in the face (facial paralysis)
- Permanent hearing loss

It's normal for children to have several ear infections when they are young—even as many as 2 separate infections within a few months. Most ear infections that develop in children are minor. Recurring ear infections may be a nuisance, but they usually clear up without any lasting problems. With proper care and treatment, ear infections can usually be managed successfully. But, if your child has one ear infection after another for several months, you may want to talk about other treatment options with your pediatrician.

(The information contained in this publication should not be used as a substitute for the medical care and advice of your pediatrician. There may be variations in treatment that your pediatrician may recommend based on individual facts and circumstances.)