

# Children's All-Too-Common Ear Infections

by Margie Patlak

“**S**he underwent a complete personality change,” a mother recounted of her daughter’s ear infection. “She’s normally a smiley baby, but once her ear got infected she cried and cried and nothing could console her.”

These painful ear infections, which can turn a tiny, sweet Dr. Jekyll into a raging Mr. Hyde and drive parents crazy, are second in frequency to colds in infants and toddlers. The statistics are staggering: One out of three sick children corralled in a pediatrician’s waiting room has an ear infection. Half of all children will have an ear infection before their first birthday, and nearly 90 percent by age 6. And with each ear infection comes the risk of high fevers and hearing loss—which, if untreated in young children, can also lead to learning disabilities and, in rare cases, brain damage if the infection spreads to the bones and tissues bordering the inner ear. Adults get ear infections, too, although not nearly as often as children.

Ear infections come about because the air passage running from the outer ear to the back of the throat (see diagram) that allows us to hear also serves as a passageway for bacteria, fungi and viruses. The two most common and troublesome types of ear infection are swimmer’s ear and middle ear infection.

Swimmer’s ear (otitis externa) primarily affects adults. It is aptly named because it often gets its start when water harboring bacteria or fungi seeps into the ear and gets trapped in the ear canal. The trapped water becomes a breeding ground for infection. First the ear feels blocked and may itch. Soon the tissue around the ear canal swells and starts draining a runny, milky liquid. A person with swimmer’s ear will probably have extreme ear pain, especially when the ear is touched.

Doctors treat swimmer’s ear by cleaning and drying the ear canal or by having the patient use eardrops containing antibiotics. There are several nonprescription drops available for drying out ears that

feel moist or blocked after showering or swimming. If the problem occurs often, some doctors may recommend putting oily eardrops in the ear before swimming to block out water. Well-fitting ear plugs will also work.

Unlike swimmer’s ear, middle ear infections (otitis media) mostly affect children. Although it is not known for certain, otitis media is generally thought to get its start at the other end of the ear when bacteria or viruses travel from the nose or throat to the middle ear where the eardrum is located. This march of germs into the ear triggers an infection when there is fluid in the ear in which the germs can breed. Such fluid can accumulate when the Eustachian tube, which connects the middle ear to the throat, is not functioning properly. The tube may be swollen shut in response to a cold, a sinus or throat infection, or an allergy. Cells generate the fluid to counter the pressure imbalance created when the tube shuts. Or cells may generate fluid in an attempt to flush out the invading bacteria or viruses.

The end result is an infection that causes pus and mucus to build behind the eardrum and muffle hearing. The pressure from this fluid is extremely painful and can cause a ringing in the ear. The pressure may also rupture the eardrum. Usually, though, the eardrum stays intact, and the fluid persists in the middle ear for weeks or even months after the acute infection clears up. This fluid puts a child at greater risk for having a recurrence of the ear infection. Middle ear infections are more common during the winter and early spring months when colds run rampant and often cause Eustachian tubes to swell shut.

Doctors suspect children under 7 are especially prone to middle ear infections because their Eustachian tubes are flimsier and more likely to collapse shut, allowing bacteria and virus-laden secretions to accumulate in the middle ear. Other reasons have been given for otitis media primarily plaguing children:

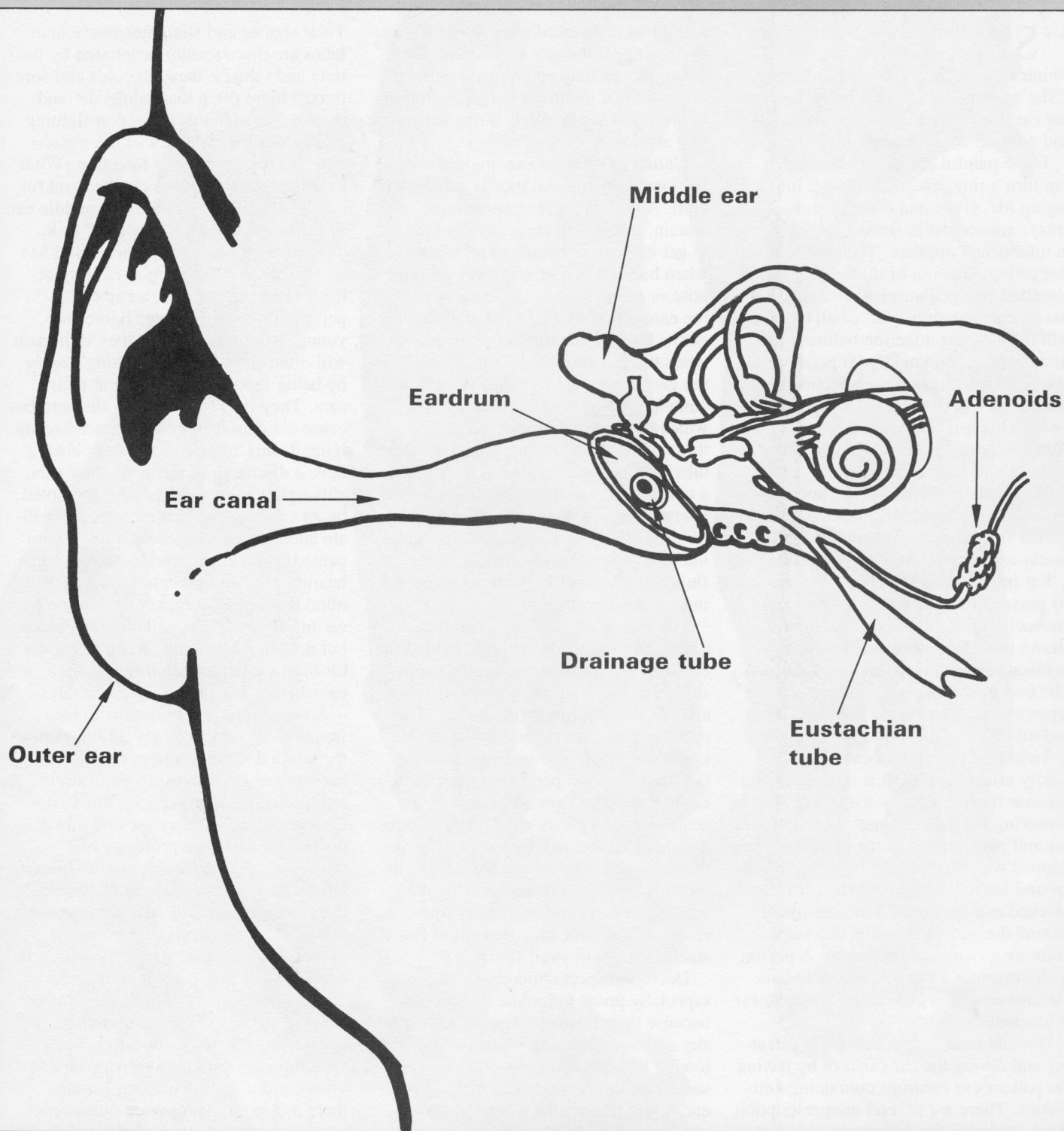
Their shorter and straighter Eustachian tubes are more readily penetrated by bacteria and viruses; they get colds and sore throats more often than adults do; and their larger adenoids (infection-fighting glands found at the back of the mouth) may predispose them to infection. Whatever the reason, parents can be thankful that most children “outgrow” middle ear infections by the time they are 7 or 8.

Parents should suspect their child has an ear infection if the child is fussy or has a fever, an earache, a curbed appetite, or trouble hearing. Babies too young to tell their parents they’re in pain will often show them something’s awry by being fussy or by tugging at their ears. They may have trouble sleeping because ear pain is more pronounced while lying down. Some children may also have a discharge of pus from their ears, although this is rare. Ear pain prompted by an ear infection that requires immediate attention by a doctor is often accompanied by outer ear tenderness and some hearing loss. But parents should keep in mind that not all earaches are caused by ear infections. If the child has an earache but no other symptoms, a trip to the doctor may not be necessary unless the earache persists more than a few days.

Some parents of children who have frequent ear infections use an otoscope—the tool a doctor uses to peer into the ear—to see if their child’s eardrum is red, indicating an infection. But Dr. George Allen, an ear, nose and throat doctor and associate professor of otolaryngology at Northwestern University in Illinois, advises against parents diagnosing their children’s ear infections. “If the otoscope isn’t inserted properly, you could damage the ear,” he cautions. “It also takes a lot of experience to discern the eardrum from the ear canal or a piece of earwax, let alone recognize an inflamed eardrum.”

Fortunately for children with ear infections and for their distraught parents, there are drugs that provide quick relief of symptoms and others that clear up the

*More than 1 million U.S. children a year undergo an operation called a tympanostomy in which a small plastic tube is inserted in the eardrum to help fluid drain from the middle ear. A buildup of fluid, the result of an ear infection, can cause pain, ringing in the ear, and even hearing loss.*



condition. Ibuprofen and acetaminophen—ingredients in a variety of non-prescription painkillers—can relieve the pain and fever linked to ear infections. (Aspirin should *not* be given to children who have a cold, flu or other viral illness, such as chicken pox, without consulting a doctor. The use of aspirin and other salicylates is linked to a rare but often fatal condition in children and teenagers called Reye syndrome.)

Antibiotics can stem the infection and relieve many of the symptoms in as little as 12 hours. Fever, however, may continue up to two days after starting antibiotics. Doctors usually treat ear infections with antibiotics such as amoxicillin or ampicillin. These drugs rapidly relieve earaches by killing off most harmful bacteria with minimal side effects. However, some bacterial strains will hold out for several days to weeks before succumbing to the drugs, so patients should take the antibiotic for the full time it is prescribed—usually 10 to 14 days.

Although oral decongestants are often prescribed for children troubled by middle ear infections, studies indicate that these drugs do not help curtail or prevent these infections when they are given to children with colds. Decongestants also may make children hyperactive or lethargic.

Antihistamines may be effective in preventing an ear infection that stems from allergies that close off the Eustachian tube, but should not be given to a child without an allergic history.

Doctors often recommend that children with chronic ear infections or persistent fluid in the middle ear have tiny, hollow tubes inserted in their eardrums to allow the fluid to drain. This procedure, called a tympanostomy, is more than 25 years old and is performed on more than 1 million children a year in this country, making it one of the most frequently performed operations in the United States.

Although a tympanostomy usually relieves middle ear fluid buildup and asso-

ciated hearing loss immediately, it requires surgery and can scar the eardrum. Such scarring could impair hearing in the long run. Parents should only consider having this surgery done if the child has middle ear fluid that persists for three months after antibiotic treatment. (After three months of experiencing middle ear fluid, a child is at risk of developing some of the more serious otitis media complications, which include permanent hearing loss.)

Tympanostomy tubes generally remain in place for about six months, when they spontaneously fall out of the ear, although some may stay in for as little as a few days or as long as a few years. If the tubes fall out after a short period, they may have to be replaced if middle ear fluid reforms. Often, though, only a few days are needed for the tubes to rid the middle ear of fluid. While the tubes are in place, a child must wear earplugs while swimming or bathing to prevent water from entering the ear and prompting an infection. Newer tubes on the market, however, are designed with valves that help prevent water from seeping through the tubes and entering the middle ear. All tympanostomy tubes are regulated by the Food and Drug Administration, which is responsible for ensuring their safety and effectiveness when inserted properly.

Ear infections should never be ignored because they can cause a number of serious problems beyond the pain of an earache. An untreated ear infection can cause permanent hearing loss or, if the infection spreads to the brain (via the mastoid bone in the skull), it can cause meningitis (inflammation of the membranes surrounding the brain) or a brain abscess. Even when infections are treated, hearing can be significantly hampered because of fluid that persists in the ear, muffling sound. Almost one out of every six children with an ear infection will have some hearing loss for as long as six months after the infection. Children with persistent hearing loss should be seen by a doctor, as they may

need more aggressive treatment to clear fluid from their middle ears.

Hearing losses in young children are traditionally linked to faulty language development, including such problems as limited vocabulary and inability to speak clearly or use proper tenses. Children with chronic ear infections may have delayed language development that could handicap their ability to learn and excel in school. Although it's yet to be proven, some experts believe there is a crucial time during the first three years of a child's life when interference with language development will *permanently* hamper a child's ability to use language properly or articulate words and sentences. But most children seem to rapidly catch up to their peers once they are rid of their ear infections and associated fluid, and gain back their hearing.

Because otitis media can take several months to completely resolve, prevention is the best goal for children continually troubled by the infections. These children should steer clear of cigarette smoke, as one study showed exposure to two or more smokers in the household tripled a child's risk of chronic ear infections. Parents can help prevent ear infections by never giving a bottle to a baby lying on its back because the milk can flow into the Eustachian tube during swallowing and trigger a middle ear infection. For children prone to the infections, antibiotics taken once or twice a day may stem the number of recurrences, as may insertion of tympanostomy tubes.

Adults with fluid in their middle ears can also benefit by having tubes inserted. Sometimes elderly people with impaired hearing are examined for hearing aids, only to find that fluid in the ear is causing their hearing loss, which hearing aids will not help. Placing tubes in these patients' eardrums quickly restores their hearing. ■

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