

## **Pediatric Middle Ear Infection (Otitis Media)**

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### **DEFINITION**

Otitis media is an infection in the middle ear (the space behind the eardrum) caused by bacteria or viruses. It is usually preceded by a cold, which can cause swelling and blockage of the normal drainage of the ear. Otitis media itself is not contagious, but the upper respiratory infection that comes before it can be infectious. Pain is due to fluid collection within the middle ear, which leads to inflammation and bulging of the eardrum. It is most common in children from 3 months to 3 years of age, but does occur in adults, too. In five to 10 percent of cases, the eardrum may burst from the fluid pressure.

### **CAUSES**

- Upper respiratory infections
- Sinus congestion due to allergies or infection
- Ruptured eardrum from other causes.

### **SIGNS AND SYMPTOMS**

- Earache
- Sensation of ear fullness
- Hearing loss
- Irritability
- Fever
- Ear drainage
- Vomiting or diarrhea (occasionally)
- Pulling at the ear (in small children).

### **RISK FACTORS**

- Age (less than 8 years old)
- Recent illness
- Smoking in the household
- Day care or other crowded or unsanitary living conditions
- Change in altitude (e.g., air travel)
- Impaired immunity, either congenital or acquired
- Genetic factors (e.g., Native Americans appear more susceptible).

### **PREVENTION**

- Breast-feeding infants
- Feeding infants while they are sitting up, never lying down
- Avoiding smoke.

### **POSSIBLE COMPLICATIONS**

- Recurrent infection

- Chronic ear infection
- Hearing loss (usually temporary)
- Mastoiditis (infection of the bony area behind the ear)
- Meningitis (rare).

### **DIAGNOSIS**

- Visual examination of the ear
- Culture of ear drainage
- Tympanometry (measurement of eardrum movement).

### **TREATMENT**

- If your child's doctor feels it is needed, an antibiotic may be prescribed (be sure to give all of the prescribed medicine, even if your child is feeling better)
- Ear drops may be used to relieve pain, but will not treat infections
- Over-the-counter pain relievers, such as acetaminophen (Tylenol®) or ibuprofen (Motrin®), can be used for pain or fever
- If not responsive to antibiotics, your doctor may refer your child to an Ear, Nose and Throat (ENT) specialist.

### **RESTRICTIONS**

- Swimming is permitted as long as the eardrum is not ruptured
- Air or mountain travel is safe; just be sure to have your child swallow frequently
- No special diet or activity restriction is needed.

### **CONSIDER NOTIFYING YOUR PHYSICIAN IF YOUR CHILD HAS:**

- Worsening symptoms
- Fever or pain after 48 hours of antibiotics
- Severe headache or neck stiffness
- Swelling around the ear
- Seizures or twitching of the face muscles
- Dizziness or vertigo.