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# Mastoiditis

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**Mastoiditis** is a [bacterial infection](#) of the mastoid air cells surrounding the inner and middle ear. The mastoid bone, which is full of these air cells, is part of the temporal bone of the skull. The mastoid air cells are thought to protect the delicate structures of the ear, regulate ear pressure and possibly protect the temporal bone during trauma.

When the mastoid cells become infected or inflamed, often as a result of an unresolved middle [ear infection](#) ([otitis media](#)), mastoiditis can develop. Because so many vital structures pass through the mastoid, infection may spread outside of the mastoid bone and cause serious health complications.

Acute mastoiditis typically affects children, but adults can also be affected.

Some people have chronic mastoiditis, an ongoing infection of the middle ear and mastoid that causes persistent drainage from the ear.

## Mastoiditis Causes

As mentioned above, mastoiditis most often develops as a result of a middle [ear infection](#). Bacteria from the middle ear can travel into the air cells of the mastoid bone. Less commonly, a growing collection of [skin](#) cells called a cholesteatoma, may block drainage of the ear, leading to mastoiditis.

## Mastoiditis Symptoms

Mastoiditis symptoms may include:

- Fever, irritability, and lethargy
- Swelling of the ear lobe
- Redness and tenderness behind the ear
- Drainage from the ear
- Bulging and drooping of the ear

## Mastoiditis Complications

Mastoiditis complications may include:

- Facial paralysis

- Nausea, vomiting, vertigo (labyrinthitis)
- Hearing loss
- Brain abscess or meningitis
- Vision changes or headaches (blood clots in the brain)

## Mastoiditis Diagnosis

Any earache with fever or posterior ear tenderness, redness or swelling should be evaluated by a doctor. The doctor will first look for infection inside the ear with an instrument (called an otoscope). Mastoiditis is uncommon without a coinciding ear infection. A sample of the infected ear fluid should be collected for culture.

If complicated, severe or chronic mastoiditis is suspected, you will be referred for a [CT scan](#) to image the mastoid area. If a pocket of fluid or pus is found anywhere (in your ear, neck, mastoid, spine) it will need to be drained and then cultured so antibiotics can be tailored to the bug found.

## Mastoiditis Treatments

[Antibiotic](#) therapy is the mainstay of treatment for both acute and chronic mastoiditis.

If you or your child is diagnosed with acute mastoiditis, you may be put in the hospital to receive treatment and care by an otolaryngologist, a doctor who specializes in ear, nose, and throat disorders. [Antibiotics](#) will be given through an IV (intravenous line) to treat the infection.

Surgery may also be needed to drain the fluid from the middle ear, called a myringotomy. During a myringotomy, the doctor makes a small hole in the eardrum to drain the fluid and relieve pressure from the middle ear. A small tube may be inserted into the middle ear to keep the hole from closing so as to

allow for continued drainage. Typically, the tube will fall out on its own after six to 12 months.

If the symptoms don't quickly improve on IV antibiotics, or complications, like an abscess or bone erosion are present, surgery to remove the infected mastoid bone may be recommended. This is called a mastoidectomy.

Chronic mastoiditis is treated with oral [antibiotics](#), eardrops, and regular ear cleanings by a doctor. If these treatments do not work, surgery may be necessary to prevent further complications.

If left untreated, mastoiditis can cause serious, even life-threatening, health complications, including [hearing loss](#), [blood clot](#), [meningitis](#), or a [brain abscess](#). But with early and appropriate antibiotic treatment and drainage, these complications can usually be avoided and you can recover completely.

If you have an earache, discharge or trouble hearing, see your doctor. He will decide if you need antibiotics to help prevent mastoiditis and other serious health complications.

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