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# CHOLESTEATOMA

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Cholesteatoma is an abnormal skin growth or skin cyst trapped behind the eardrum, or the bone behind the ear. Cholesteatomas begin as a build-up of ear wax and skin, which causes either a lump on the eardrum or an eardrum retraction pocket. Over time, the skin collects and eventually causes problems like infection, drainage, and hearing loss. The skin may take a long time to accumulate and can spread to the area behind the eardrum (the middle ear space) or to the bone behind the ear, called the mastoid bone.

## WHAT ARE THE SYMPTOMS OF CHOLESTEATOMA?

Cholesteatoma may cause these symptoms:

- Hearing loss
- Ear drainage, often with a bad smell
- Recurrent ear infections
- Sensation of ear fullness
- Dizziness
- Facial muscle weakness on the side of the infected ear
- Ear ache/pain

If you experience any of these symptoms, you should see an ENT (ear, nose, and throat) specialist, or otolaryngologist, as soon as possible.

## WHAT CAUSES CHOLESTEATOMA?

There are different reasons why a cholesteatoma may develop. Some people are born with a cholesteatoma, called congenital cholesteatoma. The most common cause is poor ventilation of the middle ear space, which is called “eustachian tube dysfunction.” The eustachian tube is the natural tube that connects your middle ear space to your nose and sinuses, and helps regulate the pressure behind your eardrum. If the eustachian tube is not working properly, the middle ear space does

not get ventilated. This creates negative pressure and ultimately causes the weakened eardrum to retract. This retraction collects skin and earwax, which leads to a cholesteatoma. Seasonal allergies, upper respiratory infections (cough/cold), or sinusitis may contribute to eustachian tube dysfunction.

A cholesteatoma can develop when skin of the ear canal passes through a hole in the eardrum and into the middle ear space. Finally, another rare type of cholesteatoma is present at birth (congenital) and is related to how the ear develops.

## ***Are There Potential Dangers?***

Without proper treatment cholesteatoma will cause recurrent ear infections. Chronic infection of the ear can lead to progressive hearing loss and even deafness. Cholesteatoma can erode bone, including the three bones of hearing, which may cause infection to spread to the inner ear or brain. These infections can lead to meningitis, brain abscess, facial paralysis, dizziness (vertigo), and even death.

## WHAT ARE THE TREATMENT OPTIONS?

Cholesteatoma can be managed in a variety of ways, but definitive removal of the skin or cyst typically requires surgical intervention. Before surgery, your ENT specialist may need to carefully clean your ear and prescribe medications to help stop the drainage. These medications (oral antibiotics) may be taken by mouth, applied directly to the ear (topical antibiotics), or both. It is advised that you keep the ear dry while treating these infections.

The specific type of surgery depends on what part of the ear is involved with the cholesteatoma. Sometimes the extent of disease is clearly seen on the office exam. Other times imaging, often a CT scan, helps to define where the cholesteatoma is located. CT scans are a collection of X-rays that provide good detail on the bony

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anatomy of the ear. A hearing test, or audiogram, should be obtained. Other tests like an MRI or balance testing are less commonly required.

The primary goal of cholesteatoma surgery is to remove the skin, clear the infection, and create a dry, safe ear. This may involve reconstructing the eardrum, removing bone behind the ear, or reconstructing the hearing bones. In some cases, a second surgery may be required to make sure all the cholesteatoma has been removed before the hearing bones can be rebuilt.

A second surgery will typically be performed six to 12 months after your first surgery, if necessary. Your hearing might temporarily worsen after the first surgery if the reconstruction of your hearing bones is delayed. There are many factors that contribute to how well you hear after surgery, and these should be discussed with your ENT specialist.

Surgery is generally performed in an outpatient setting, but some patients may require an overnight stay. In rare cases of serious infection, a prolonged hospitalization for antibiotic treatment may be required. Interventions for facial nerve weakness or to control dizziness are rarely needed. Time off from work is typically one to two weeks. After surgery, follow-up office visits will be needed to clean your ear, recheck your hearing, and evaluate the results. Cholesteatoma requires long-term surveillance to check for recurrence.

## **WHAT QUESTIONS SHOULD I ASK MY DOCTOR?**

1. What parts of the ear does my cholesteatoma involve (middle ear, mastoid, or both)?
2. Are there any medications I can take or things I can do to stop the ear drainage?
3. Will the surgery be through my ear canal, behind the ear, or both?
4. Will I need a planned second surgery?
5. How long should I keep the ear canal dry after surgery?
6. Will there be dizziness after surgery?
7. What is the plan for pain control after surgery?
8. What type of follow-up will be needed after surgery? What follow-up is needed long-term?
9. How do you expect this to affect my hearing?