Introduction
External otitis, also known as otitis externa or swimmer’s ear, refers to inflammation of the external ear canal. External otitis can take on acute and chronic forms:
- Acute otitis externa (AOE) is normally caused by a bacterial infection in the ear canal
- Chronic otitis externa may be caused by fungi or may be caused by allergic skin conditions that can manifest in the ear as well, such as eczema and seborrhea

Specific factors increase the risk of AOE:
- Swimming or other water exposure is a well-known risk factor. Excess moisture in the ear canal disrupts the protective barrier provided by cerumen (earwax) and increases pH in the ear canal. The resulting dark, warm, alkaline, moist ear canal becomes an ideal breeding ground for several microorganisms, such as bacteria.
- Any trauma from excessive cleaning or scratching of the ear canal not only removes cerumen, but can also damage the thin layer of skin in the ear canal, allowing bacteria to gain access to deeper tissues.
- Devices that block the ear canal, such as hearing aids or earphones can predispose to AOE.

Symptoms of AOE
AOE presents with a sudden onset or earache, itching, swelling and redness in the external ear canal. It is often accompanied by a discharge from the ear (which may be foul-smelling in more severe cases) and hearing loss. A classic finding of tenderness with movement of the outer ear (pinna) is characteristic of AOE. Pain is the symptom that best correlates with the severity of disease.

Symptoms of AOE may range from mild inflammation, which occurs in about 50% of cases, to a life-threatening infection of the temporal bone, which occurs in less than 0.5% of cases.

Treatment of AOE
Management of most cases of mild to moderate AOE involves the use of topical ear products rather than oral antibiotics because the infection is usually limited to the skin of the ear canal. The components of care include cleaning the ear canal, treating inflammation and infection and pain control.

Cleaning of the ear canal needs to be done by the doctor with the help of an otoscope that allows direct visualisation of the ear canal and the eardrum as well as the use of a wire loop or cotton swab to remove cerumen and debris in the ear canal.

Treatment of mild to moderate inflammation and infection is with topical medicines. However, the use of acidifying and antiseptic ear drops is to be avoided if it is suspected that the eardrum is not intact e.g. history of a burst eardrum, ear surgery or grommets in the eardrum. These patients should be referred to a doctor.
- For mild AOE, a topical preparation that reduces the pH in the ear canal (e.g. acetic acid 1% in distilled water) may be effective. The doctor may also prescribe a topical cortisone ear drop to help reduce inflammation. An antibiotic ear drop is not usually required as it only offers a marginal additional benefit for mild disease. First-line therapy with antiseptics (e.g. alcohol-based products) or acidifying agents (e.g. acetic acid 1%) is preferred over topical and oral antibiotics in uncomplicated and mild cases of AOE.
- For moderate AOE, the doctor will usually prescribe an antibiotic ear drop, often in combination with topical cortisone (e.g. hydrocortisone).

“Cleaning of the ear canal needs to be done by the doctor with the help of an otoscope that allows direct visualisation of the ear canal...”
**Important information for the patient with AOE**

- Don’t put anything in the ear canal to clean the ear – including cotton ear buds. The ear is self-cleaning and fingers, towels, cotton swabs or other foreign objects should not be inserted.
- Protect the ear from water during recovery from AOE. This can be done by placing a cotton-wool ball coated with petroleum jelly in the ear canal while bathing or using a shower cap while showering.
- Patients with AOE should not swim and should ideally refrain from water sports for seven to ten days.
- Hearing aids and earphones should not be worn until pain and discharge have resolved.
- Symptom improvement occurs within 36 to 48 hours after starting treatment but full resolution of symptoms may take six days.
- If patients do not respond to appropriate treatment, referral to the doctor is necessary.
- Patients that suffer from recurrent symptoms should use earplugs when swimming, blow-dry the ears (with a hairdryer on a low setting) after water exposure and use ear drops that contain acetic acid or alcohol to help dry the ear out and re-acidify the ear canal.

Patients with ear pain may respond quickly to treatment with appropriate ear drop formulations, but mild to moderate pain can be managed with oral nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, diclofenac or naproxen.

**Bibliography**

5. Goguen LA. External otitis: Treatment. Available from Uptodate.com