ACUTE OTITIS EXTERNA V1.0

Scope:

- This guideline provides advice for treatment and management of acute otitis externa, which is inflammation of less than 6 weeks duration, typically caused by bacterial infection with *Pseudomonas aeruginosa* or *Staphylococcus aureus*.
- Chronic otitis externa is inflammation which has lasted longer than 3 months, and may be associated with diabetes mellitus, other causes of immunocompromise or fungal infection. This is beyond the scope of this guideline.
- Malignant otitis externa is a potentially life-threatening progressive infection of the external ear canal causing osteomyelitis of the temporal bone and adjacent structures, and is beyond the scope of this guideline.

Comments from the Expert Advisory Group

Acute otitis externa is a form of cellulitis involving the skin of the ear canal.

Symptoms of Acute Otitis Externa:

- Key diagnostic symptom: rapid onset ear pain (i.e. <48 hours)
- Other diagnostic symptoms: otorrhoea, aural fullness, itching, decreased hearing, pain exacerbated by jaw movement

Differential Diagnosis

- Otitis Media with rupture of the tympanic membrane
- Malignant Otitis Externa – urgent referral to hospital required

Risk factors:

- underlying skin conditions e.g. eczema/psoriasis/seborrheic dermatitis
- local trauma (e.g. insertion of cotton buds / keys / ear plugs into ear canal)
- swimming
- diabetes
- immunosuppression

Examination:

- tenderness over tragus, pinna or both (key diagnostic sign)
- ear canal swelling and erythema
- discharge in ear canal
- perichondritis may also be present

Advise patient to return if:

- No improvement within 48-72 hours after starting treatment or any dis-improvement. These patients may need an ear swab to look for resistant organisms or fungal infection and oral antibiotics. They may also need referral to ENT for aural toilet. If persisting for greater than 3 months it is defined as Chronic Otitis Externa
- Pain extending to neck/jaw or cranial nerve involvement (i.e. facial palsy) which may indicate malignant otitis externa. This requires urgent referral to hospital

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Self Care:

- Avoid damage to the external ear canal: advise patient not to insert cotton buds/keys etc.
- Keep the ears clean and dry
- Use ear plugs and/or a tight-fighting cap when swimming
- Keep shampoo, soap, and water out of the ear when bathing and showering, for example by inserting ear plugs or cotton wool (with petroleum jelly)
- Consider using a hair dryer (at the lowest heat setting) to dry the ear canal after hair washing, bathing, or swimming
- Alcohol sprays e.g. Dry Ears® (unlicensed) can be effective as prophylaxis in people who get recurrent otitis externa from swimming
- Avoid swimming and water sports for at least 7–10 days during treatment
- Manage any underlying causes or risk factors including associated skin conditions, where possible
- Analgesia : paracetamol (or ibuprofen if appropriate)

Treatment

Consider prescribing a topical antibiotic preparation with or without a topical corticosteroid for 3 - 7 days, depending on clinical judgement and symptom response.

<table>
<tr><th colspan="4">ACUTE OTITIS EXTERNA TREATMENT TABLE</th></tr>
<tr><th>Drug</th><th>Dose</th><th>Duration</th><th>Notes</th></tr>
<tr><th colspan="4">Treatment options for otitis externa, tympanic membrane intact</th></tr>
<tr><td>Gentisone HC® ear drops (gentamicin and hydrocortisone)</td><td>2-4 drops into the affected ear every six to eight hours</td><td rowspan="4">3-7 days</td><td rowspan="4">Aminoglycoside-containing ear drops not recommended if perforation suspected (e.g. Gentisone® / Genticin® / Sofradex® / Betnesol N®)

As supply issues can arise with ear drops, where appropriate, state a suitable alternative on prescription if first choice unavailable.</td></tr>
<tr><td>OR Sofradex®
(framycetin, gramicidin, dexamethasone) ear drops</td><td>2-3 drops into the affected ear every six to eight hours</td></tr>
<tr><td>OR Betnesol N®
(betamethasone and neomycin)</td><td>2-3 drops into the affected ear every six to eight hours</td></tr>
<tr><td>OR
Gentamicin ear drops
PLUS (if inflammation present):
Betnesol® ear drops
(betamethasone)</td><td>2-3 drops into the affected ear every six to eight hours

2-3 drops into the affected ear every two to three hours, reducing frequency when control achieved</td></tr>
<tr><th colspan="4">(Suspected) tympanic membrane perforation</th></tr>
<tr><td>Ciprofloxacin</td><td>4 drops into the affected ear canal every twelve hours</td><td>7 days</td><td></td></tr>
</table>

Acetic acid, e.g. EarCalm® (unlicensed) can be used for superficial swimmers ear infections.

A common cause of treatment failure for topical therapy is under-dosing due to technique of application.

Correct technique for application of ear drops:

- Remove any visible discharge or earwax using cotton wool
- The person should lie down with the ear to be treated uppermost
- The ear canal should be filled with ear drops. Gently pulling and pushing the ear helps to let air out of, and liquid into, the ear canal
- The person should remain in this position for 5 minutes
- If the person cannot lie still long enough to allow absorption, a small cotton plug covered with petroleum jelly or moistened with the drops and placed at the external opening of the ear canal for about 5 minutes can be used to help retain the drops in the ear
- A small cotton swab placed at the tragus can be used to catch any leakage from the ear when sitting up
- The ear canal should be left open to dry

Patient Information

HSE A to Z Ear infections