

## ACUTE OTITIS EXTERNA V2.0

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

### Scope

- This guideline provides advice for treatment and management of acute otitis externa in adults and children, 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 6 weeks, and may be associated with diabetes mellitus, other causes of immunocompromise or fungal infection. Refractory chronic cases should be referred to ear, nose and throat consultants. This is beyond the scope of this guideline.
- Necrotising 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.
- For treatment of otitis media see the guideline for [otitis media in children](#).

### Comments from the Expert Advisory Group

#### 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.
- Necrotising Otitis Externa – urgent referral to hospital required. Suspect necrotising otitis externa if: foul/purulent discharge, cranial nerve palsies, granulation tissue on exam, high risk groups (elderly, diabetic and immunosuppressed patients).

#### Risk factors

- Underlying skin conditions e.g. eczema / psoriasis / seborrheic dermatitis
- Local trauma (e.g. insertion of cotton buds / keys / ear plugs / earphones 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

HSE Antimicrobial Resistance and Infection Control Programme

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### Treatment

- Analgesia: paracetamol (or ibuprofen if appropriate)
- 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)
- Avoid swimming and water sports for at least 7–10 days during treatment

### Preventative Self-Care Strategies

- 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-fitting 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
- Manage any underlying causes or risk factors including associated skin conditions, where possible

### Advise patient to return if

- No improvement within 48-72 hours after starting treatment, any dis-improvement or if not fully resolved after completion of treatment. These patients may need an ear swab to look for resistant organisms or fungal infection. They may need referral to ENT for aural toilet.
- Pain extending to neck/jaw or cranial nerve involvement (i.e. facial palsy) which may indicate necrotising otitis externa. This requires urgent referral to hospital.

**Treatment table outlined on the next page.**

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### OTITIS EXTERNA EMPIRIC TREATMENT TABLE (Page 1 of 2)

- Consider prescribing a topical antibiotic preparation with or without a topical corticosteroid for 7 days, depending on clinical judgement and symptom response.
- As supply issues can arise with ear drops, where appropriate, state a suitable alternative on the prescription as first choice may be in short supply.
- Avoid swimming and water sports for at least 7–10 days during treatment.

Drug	Dose	Duration	Notes
<b>Treatment options for otitis externa, tympanic membrane intact</b>			
Acetic Acid 2% Ear Spray (unlicensed)	Adults and children aged 12 years and above:  One metered dose (60 mg) to be administered directly into each affected ear at least three times daily (morning, evening and after swimming, showering or bathing). Maximum dosage frequency one spray every 2 - 3 hours.	7 days	<b>This should be used in the absence of purulence i.e. inflammation only.</b>  Note that this product is only available as an unlicensed medicine in Ireland.  Use for maximum 7 days.
<b>OR</b> Gentamicin and Hydrocortisone Ear Drops (Gentisone HC®)	Adults and children: 2 to 4 drops into the affected ear every 6 to 8 hours and at night	7-14 days	Aminoglycoside-containing ear drops (e.g. Gentisone HC®/ Sofradex®/ Betnesol N® /Genticin®) not recommended if perforation suspected and are contraindicated if grommets in situ.
<b>OR</b> Gentamicin Ear Drops (Genticin®)	Adults and children: 2 to 3 drops into the affected ear every 6 - 8 hours and at night		
<b>PLUS</b> (if inflammation present) Betamethasone Ear Drops (Betnesol®)	Adults and children: 2 to 3 drops every 2 - 3 hours, reducing frequency when control achieved		
<b>OR</b> Betamethasone and Neomycin Ear Drops (Betnesol-N®)	Adults and children: 2 to 3 drops into the affected ear every 6 - 8 hours	7 days	Aminoglycoside-containing ear drops (e.g. Gentisone HC®/ Sofradex®/ Betnesol N® /Genticin®) not recommended if perforation suspected and are contraindicated if grommets in situ.  Betnesol-N® drops should not be used for more than 7 days, unless under expert supervision.
<b>OR</b> Framycetin, Gramicidin, Dexamethasone Ear Drops (Sofradex®) (unlicensed)	Adults and children: 2 to 3 drops into the affected ear every 6 - 8 hours	7 days	Aminoglycoside-containing ear drops (e.g. Gentisone HC®/ Sofradex®/ Betnesol N® /Genticin®) not recommended if perforation suspected and are contraindicated if grommets in situ.

**See next page for treatment options for (suspected) tympanic membrane perforation / grommets in situ**

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## OTITIS EXTERNA EMPIRIC TREATMENT TABLE (Page 2 of 2)

(Suspected) tympanic membrane perforation / grommets in situ

NOTE: In these patients there should be a low threshold for referral to ENT.

Ciprofloxacin Ear Drops (Ciloxan®)	Adults: 4 drops into the affected ear canal every 12 hours  Children aged one year and older: 3 drops into the affected ear canal every 12 hours	7 days	
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### How to apply ear drops

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-Z: Ear infections](#)