Government of **Western Australia**
Department of **Health**

Enhanced Access Community Pharmacy Pilot

Acute otitis externa

Clinical practice guideline

Service restricted to patients aged 2 years or over.

Ineligibility for treatment as part of a prescribing service does not preclude a patient from accessing services provided as part of usual pharmacy care.

The information and content in this clinical practice guideline do not constitute medical advice, diagnosis, or treatment recommendations for individual patients. Pharmacists must exercise professional discretion and judgement consistent with their qualifications and legislative authority. This guideline does not override the responsibility of the pharmacist to undertake clinical assessments and to make decisions appropriate to the circumstances of the individual and the relevant standards of care, in consultation with the patient and/or their parent/caregiver. This clinical practice guideline may only be used by pharmacists who have been approved by the Department of Health to participate in the Enhanced Access Community Pharmacy Pilot (EACPP) and are authorised to prescribe under the *Medicines and Poisons Regulations 2016* (WA). This document alone does not provide an authorisation for a pharmacist to prescribe.

Contents

Guideline overview

Meet service and professional obligations

- Initial patient eligibility and suitability for management within the scope of the service
- Patient informed consent (including consent for communication with other health practitioners if relevant)

Patient history and assessment

- Patient history
- Examination:
  - ear examination
  - vital signs
  - tender or enlarged cervical lymph nodes
  - mastoid area

Develop management plan

- Non-pharmacological measures
- Pharmacotherapy:
  - otic antibiotics
  - oral analgesia

Confirm management is appropriate

- Contraindications, precautions, and interactions
- Pregnancy and lactation
- Appropriate antimicrobial use

Communicate agreed management plan

- Medication counselling
- General advice and patient information
- When to seek further care and/or treatment
- Communication with other health practitioners

Clinical review

- Response to treatment
- Communication with other health practitioners

Refer when

- The patient is aged below 2 years (does not preclude a patient from accessing usual pharmacy care)
- Unclear diagnosis
- Complete occlusion of the ear canal
- Red, swollen, and tender behind the ear
- Systemic symptoms
- Recent significant head or ear trauma
- Immunocompromised
- Diabetes
- Tympanic membrane (TM) 'red flags':
  - crust/scab or granulation in attic region (discharge/odour may be present)
  - severely retracted (sucked in) TM or retraction pocket in attic area of eardrum
  - dull, white mass behind TM or chalky patches
  - perforation or suspected perforation of the TM
- Evidence of infection beyond the ear canal including inflammation to the pinna or folliculitis
- Inadequate response to optimal treatment
- Recurrent symptoms (at least 3 episodes in 6 months, or 4 episodes in 12 months).

Treat and concurrently refer

- The patient has severe symptoms (without complete occlusion of the ear canal) associated with intense pain.

Key points

- Acute diffuse otitis externa (AOE) can present with generalised or diffuse inflammation of the external ear canal, often associated with infection[1, 2].
- Most cases of AOE, also known as swimmer's ear, are caused by bacterial infection. Fungal infection occurs less frequently than bacterial infection, often follows the prolonged use of antimicrobial ear drops, and is more common in patients with diabetes or immunocompromise, and in humid or tropical areas. Mixed bacterial and fungal infections can occur[1-3].
- AOE can affect people of any age but is more common in children and adolescents aged between 5 and 14 years[4].
- Oral antibiotics should not be used for uncomplicated AOE. Patients that require assessment for oral antibiotics due to presence of complications e.g. systemic symptoms or evidence of infection beyond the ear canal, should be referred to an appropriate healthcare provider[1, 2, 5].
- Ear conditions are often very painful, particularly for young children, and it is important to approach with care[6]. If the patient will not allow for otoscopic examination due to pain, advice should be provided on appropriate analgesia and the patient referred to an appropriate healthcare provider.

Refer when

Refer the patient to an appropriate healthcare provider (including emergency services, if required) in the following situations:

- the patient is aged below 2 years (does not preclude a patient from accessing usual pharmacy care)
- unclear diagnosis
- complete occlusion of the ear canal
- red, swollen, and tender behind the ear (possible acute mastoiditis)
- systemic symptoms including fever, weakness, irritability, loss of appetite
- recent significant head or ear trauma
- immunocompromised
- diabetes
- tympanic membrane (TM) 'red flags':
  - crust/scab or granulation in attic region (discharge/odour may be present)
  - severely retracted (sucked in) TM or retraction pocket in attic area of ear drum
  - dull, white mass behind TM or chalky patches
  - perforation or suspected perforation of the TM
- evidence of infection beyond the ear canal including inflammation to the pinna or folliculitis
- inadequate response to optimal treatment
- recurrent symptoms (at least 3 episodes in 6 months, or 4 episodes in 12 months).

Treat (if clinically appropriate) and concurrently refer

Provide initial therapy and concurrently refer to an appropriate healthcare provider (including emergency services, if required) in the following situation:

- patient has severe symptoms (without complete occlusion of the ear canal) associated with intense pain.

Patient history and assessment

Diagnosis of AOE is based on clinical history and ear examination using an otoscope[1,6]. A diagnosis of diffuse AOE requires the rapid onset (generally within 48 hours) of:

1. **symptoms of ear canal inflammation:**
   - ear pain (commonly severe), itching, or a feeling of fullness in the ear (can be with or without hearing loss or jaw pain), pain in the ear canal and temporomandibular joint region intensified by jaw motion[5]

   AND

2. **signs of ear canal inflammation:**
   - tenderness of the tragus and/or pinna

     OR

   - diffuse ear canal oedema and/or erythema (with or without otorrhea, regional lymphadenitis, TM erythema, or cellulitis of the pinna and adjacent skin)[5].

Patient history

Obtain sufficient information from the patient to assess the safety and appropriateness of any recommendations and medicines.

The patient history should consider:

- age
- pregnancy and lactation status (if applicable)
- nature, severity and frequency of symptoms including pain, itch, discharge, hearing loss, a feeling of fullness, and dizziness
- onset and duration of symptoms, including preceding illness
- history of head or ear trauma
- recent history of upper respiratory tract infection

- other presenting symptoms including temperature > 38°C or < 35.5°C, rash, increased respiratory rate/distress, dehydration and/or reduced urine output, runny nose, sore throat, or cough
- family history of ear conditions and hearing loss, previous hearing tests
- delayed speech or language development
- previous history of AOE, otitis media (OM), or other ear conditions:
  - patient age at first episode of ear conditions
  - under the care of an ENT specialist or audiologist
  - ear surgery to insert tympanostomy tube (grommets)
  - prior treatment for AOE, OM, or other ear conditions – when and what treatment[6]
- frequency and method of ear cleaning
- precipitating factors e.g. swimming (especially in a dam or creek), humid or tropical weather conditions, local trauma to the ear canal (e.g. vigorous cleaning/scratching), use of topical antimicrobial agents or exposure to other irritants, obstruction of the ear canal (e.g. cerumen, foreign bodies), use of hearing aids, use of ear plugs
- relieving factors
- underlying medical conditions e.g. immunocompromised (including diabetes), cochlear implant, craniofacial abnormalities, persistent hearing loss, dermatological conditions (e.g. psoriasis, dermatitis), herpes zoster (Ramsay Hunt syndrome)
- current and recently ceased treatments (including prescribed medicines, vitamins, herbs, other supplements, and over-the-counter medicines)
- previous radiation treatment
- drug allergies/adverse drug reactions
- immunisation status as per the *Australian Immunisation Handbook*.

Reminder

Pharmacists can access a range of clinical information in a patient's My Health Record, including details about current and past medication history, allergies, and current medical conditions.

Examination

- Conduct assessment of vital signs.
- Examine for tender or enlarged cervical lymph nodes.
- Conduct visual examination and palpation of mastoid area.
- Check for other symptoms if required (nose, throat, cough)[6].

Ear examination using otoscopy

Physical examination including otoscopy of both ears (starting with the least painful ear) is required to differentiate between diffuse AOE, acute otitis media, and other ear conditions[1, 7, 8].

Ear examination using simple otoscopy should be conducted in accordance with the Queensland Health and Royal Flying Doctors Primary Clinical Care Manual[6]. An ear differential diagnosis flowchart is included, and features to assist in differentiating between bacterial and fungal infections[6].

If ear discharge is visible, the ear canal should be gently cleaned prior to performing ear examination to remove any discharge[6, 9]. The Remote Primary Health Care Manual – Clinical Procedures Manual[9] and the Queensland Health and Royal Flying Doctors Primary Clinical Care Manual contain a step by step guide for dry mopping[6].

Visualisation of the TM can be difficult in the presence of extensive otorrhoea or cerumen, or when there is complete occlusion of the canal[1, 7].

In these cases, it can be difficult to distinguish AOE from purulent OM with a TM perforation; pain triggered by gently pulling on the pinna is suggestive of diffuse AOE[10].

Develop management plan

Pharmacists must ensure that they are prescribing medicines according to the specified sections of the current online version of the Therapeutic Guidelines.

Pharmacist management of AOE involves:

- **non-pharmacological measures:**
  - advice and education regarding keeping ears dry in accordance with the Therapeutic Guidelines: Antibiotic (Ear, nose and throat infections - Otitis externa)[1] and the Queensland Health and Royal Flying Doctors Primary Clinical Care Manual[6]
- **pharmacotherapy:**
  - oral analgesia in accordance with the Therapeutic Guidelines: Pain and Analgesia (Pharmacological management of acute pain: Mild, acute nociceptive pain)[11]
  - otic antimicrobial therapy in accordance with the Therapeutic Guidelines: Antibiotic (Ear, nose and throat infections - Otitis externa)[1].

Confirm management is appropriate

Consult the *Therapeutic Guidelines, Australian Medicines Handbook*, and other relevant resources to confirm that management is appropriate, including for:

- contraindications and precautions
- drug interactions
- pregnancy and lactation.

Reminder

The prescribing and use of antibiotics should be consistent with the principles described in the Therapeutic Guidelines: Antibiotic. Pharmacists should carefully assess whether antibiotic therapy is clinically indicated, and if so, consider local antimicrobial resistance patterns and relevant clinical factors when selecting therapy.

Communicate agreed management plan

Comprehensive advice and counselling (including supporting written information when required) should be provided to the patient regarding:

- individual product and medicine use
- non-pharmacological measures
- how to manage adverse effects
- when to seek further care and/or treatment (including recognising patient deterioration).

It is the pharmacist's responsibility to ensure the suitability and accuracy of any resources provided to patients (and/or parents/caregivers if applicable), and that they comply with all copyright conditions.

The agreed management plan should be shared with members of the patient's multidisciplinary healthcare team, with the patient's consent.

Patient resources

- The Royal Children's Hospital Melbourne Fact sheet: Ear infections and glue ear

General advice

AOE symptoms typically improve within 48 to 72 hours of starting treatment, however full resolution may take up to 2 weeks[13].

At the time of initial consultation, patients (and/or parents/caregivers) should be advised to see an appropriate healthcare provider if:

- there is no improvement in symptoms after 48 to 72 hours of treatment
- signs or symptoms worsen, or their condition deteriorates
- new signs or symptoms develop, including systemic symptoms
- otorrhea continues for ≥ 2 weeks.

Patients (and/or parents/caregivers if applicable) should be provided with advice regarding the prevention of AOE including:

- the use of over-the-counter ear drops containing drying agents such as acetic acid and isopropyl alcohol following water exposure (after current infection resolution, only if eardrum is intact)[1, 6, 10, 13]
- keeping the external ear canal dry and free of water e.g. using earplugs, a shower, or bathing cap[1, 13]
- avoiding local trauma to the ear canal e.g. use of cotton buds or other implements[10, 13].

Clinical review

Clinical review is generally not required. Pharmacists should prescribe a quantity of medicine that aligns with the expected duration of therapy. Advise patients (and/or parents/caregivers) to see an appropriate healthcare provider if the condition does not improve or resolve (see Refer when and General advice).

Pharmacist resources

- Western Australia:
  - Clinician Assist WA: Otitis Externa
- CARPA Standard Treatment Manual:
  - Otitis externa
- Therapeutic Guidelines: Antibiotic
  - Otitis externa
- Therapeutic Guidelines: Pain and analgesia
  - Pharmacological management of acute pain
  - Mild, acute nociceptive pain
- Australian Medicines Handbook :
  - Otitis externa
  - Drugs for ear infections
  - NSAIDs
  - Drugs for pain relief
- MSD Manual (Professional version): External otitis (Acute)
- Otolaryngology Journal: Clinical Practice Guideline: Acute Otitis Externa
- Queensland Health and Royal Flying Doctors Service (Queensland branch): Primary Clinical Care Manual 12th edition 2025
- DermNet NZ: Otitis externa
- Remote Primary Health Care Manual: Clinical Procedures Manual
- McGovern Medical School: Ear disease photo book

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13. Australian Medicines Handbook: Drugs for ear infections. Adelaide: Australian Medicines Handbook Pty Ltd; 2025 [cited 2025 April 2]. Available from: https://amhonline.amh.net.au/chapters/ear-nose-throat-drugs/drugs-ear-infections?menu=vertical.

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Feedback

To provide feedback on this clinical practice guideline, please email DOH.EACPP@health.wa.gov.au

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