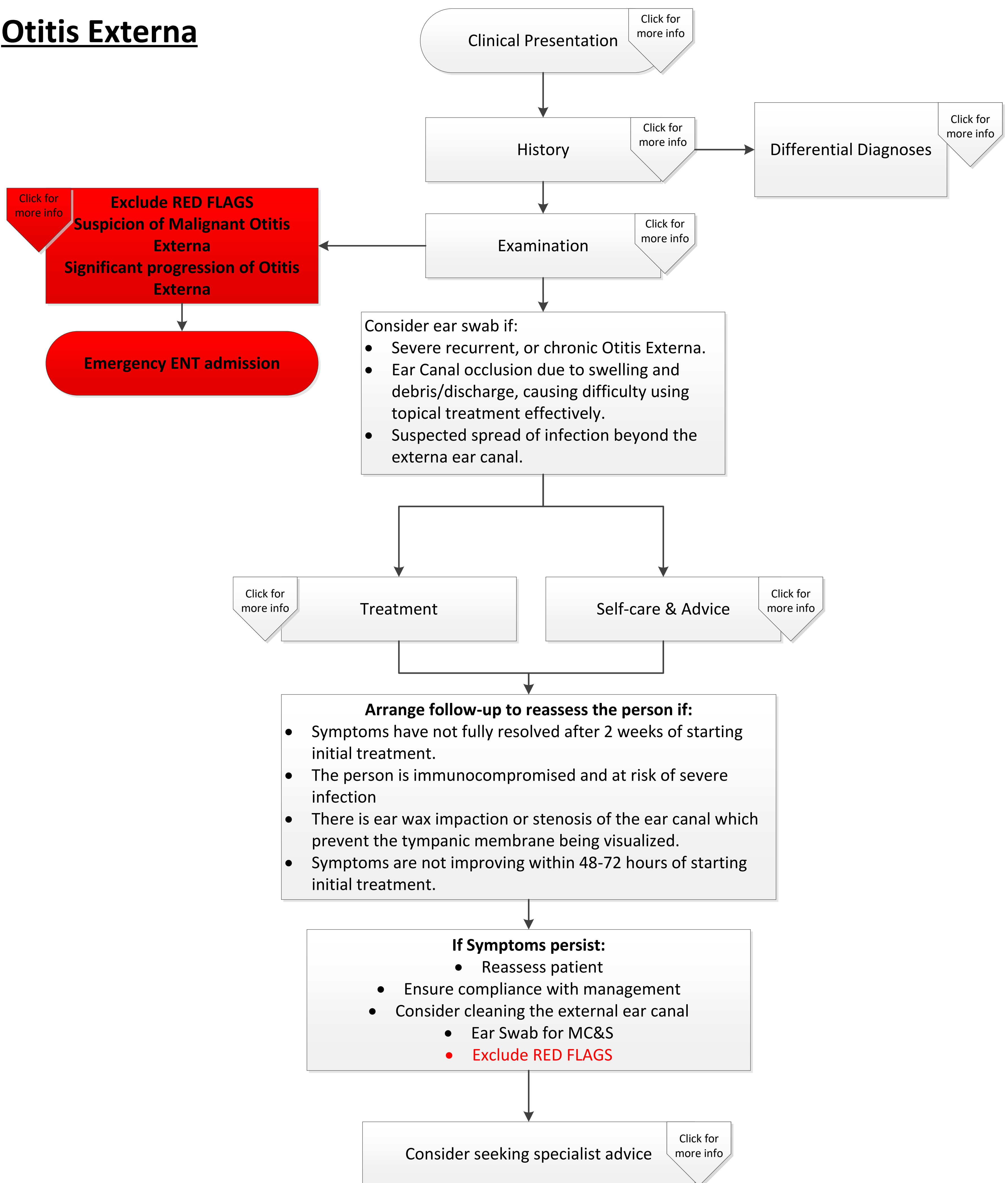
Otitis Externa



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Clinical Presentation

Suspect a diagnosis of acute otitis externa if a person presents with:

At least one typical symptom (usually rapid-onset within 48 hours):

- Itch of the ear canal
- Ear pain and tenderness of the tragus and/or pinna (often severe), with possible jaw pain
- Ear discharge
- Hearing loss due to ear canal occlusion (less common).

At least two typical signs:

- Tenderness of the tragus and/or pinna
- The ear canal is red and oedematous, and there may be debris and ear discharge contributing to swelling and canal occlusion.
- Tympanic membrane erythema (may be difficult to visualize if the ear canal is narrowed or filled with debris).
- Cellulitis of the pinna and adjacent skin.
- Conductive hearing loss (less common).
- Tender regional lymphadenitis (less common).

Suspect a diagnosis of chronic otitis externa if a person presents with:

- Constant itch in the ear
- Lack of ear wax in the external ear canal
- Dry scaly skin, or red, moist skin in the ear canal
- Fluffy, cotton-like debris, hyphae, or dots of black debris (possible fungal infection)
- Conductive hearing loss
- Mild discomfort or pain (rare)

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History

- The onset, nature, and severity of symptoms, such as:
  - Pain or tenderness on moving the ear (tragus or pinna) or jaw
  - Ear discharge (serous or purulent)
  - Itch in the ear canal
  - Fever
  - Hearing loss (conductive)
- Impact on daily functioning and quality of life.
- Any possible causes or risk factors, including recent ear trauma, use of hearing aids or ear plugs, history of head or neck radiotherapy.
- Any previous episodes and topical or oral treatments used.
- Any previous ear surgery, perforation of the tympanic membrane and/or tympanostomy tube insertion within the previous year.
- Any history of allergic or irritant contact dermatitis
- Any comorbidities such as diabetes mellitus or other causes of immunocompromise.

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Examination

Examine the ear canal, tympanic membrane, pinna, the auricular and cervical lymph nodes. Also examine the surrounding tissue for dermatological conditions.

- Swelling of ear canal (early)
- Pus / discharge (late)
- Cellulitis spreading beyond the ear
- Regional lymphadenopathy
- Red, oedematous ear canal narrowed and obscured by debris

- It can be difficult to adequately visualize the tympanic membrane in people with otitis externa.
- Have a high index of suspicion for perforated tympanic membrane if history consistent with this.

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Exclude RED FLAGS

- Suspect malignant otitis externa if:
- Otalgia and headache are more severe than clinical signs would suggest
- Refractory otitis externa
- Severe nocturnal otalgia
- Purulent otorrhoea
- Evidence of pseudomonas on swab
- Granulation tissue or exposed bone in ear canal
- Systemically unwell, high fever
- Profound conductive hearing loss
- Vertigo

Other indications for emergency ENT referral:

- Cellulitis spreading onto face
- Spreading infection
- Mastoiditis
- Periaural Cellulitis
- Perichondritis

Additional Risk factors:

- Diabetes
- Older age
- Cranial nerve involvement e.g facial nerve palsy
- Immunosuppression e.g including significant underlining condition.

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Differential Diagnosis

- **Acute otitis media** — may present with an erythematous tympanic membrane and ear discharge (particularly if a tympanostomy tube is in situ).
- **Foreign body in the ear** (especially in children) may present with purulent ear discharge and pain.
- **Impacted ear wax** — may cause pain and hearing loss.
- **Skin conditions** — such as contact dermatitis, eczema, fungal skin infection, psoriasis, seborrhoeic dermatitis, erysipelas, and discoid lupus erythematosus involving the ear canal.
- **Referred pain** — may originate from the teeth, sphenoidal sinus, neck, or throat.
- **Cholesteatoma** — causes persistent or recurrent ear discharge and fullness but is typically painless. There may be a perforated tympanic membrane, retraction pocket in the tympanic membrane, and granulation tissue, which may mimic malignant otitis externa.
- **Mastoiditis** — may present with systemic illness, fever, marked hearing loss, and mastoid tenderness or swelling.
- **Ramsay Hunt syndrome** — a form of herpes zoster affecting the facial nerve, which may present with severe pain, vesicles on the external ear canal and posterior pinna, facial paralysis, loss of taste on the anterior two-thirds of the tongue, and decreased lacrimation on the involved side.
- **Barotrauma** — such as in divers, recent air travel, or recent ear trauma.
- **Malignancy** — squamous cell carcinoma of the ear canal can present similarly to malignant otitis externa, with abnormal tissue growth in the ear canal or bloody ear discharge.

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Treatment

- **Analgesia**
- **Consider cleaning the external auditory canal**
- **Topical acetic acid 2% spray (e.g. Earcalm – available OTC) is a safe and effective treatment and can be used for mild cases.**
- **Consider prescribing a topical antibiotic preparation with or without a topical corticosteroid for 7– 14 days,** e.g. Quinolones, Aminoglycosides
  - Quinolones can be used in people with a perforated ear drum.
  - Topical aminoglycosides are less preferred by some experts because they can cause contact dermatitis, although this is rare after a short course for acute otitis externa [Rosenfeld, 2014]. Adverse effects to consider include ototoxicity in people with a perforated tympanic membrane, skin sensitisation, and fungal superinfection (particularly with long-term use).
  - An additional topical corticosteroid preparation may be beneficial if there is significant inflammation, erythema, and oedema in the ear canal.
  - Advise on how to administer ear drops correctly.
  - **https://cks.nice.org.uk/topics/otitis-externa/prescribing-information/topical-ear-preparations/**

- **Consider prescribing an oral antibiotic if the person is immunocompromised, there is severe infection or high risk of severe infection (e.g. Pseudomonas aeruginosa), or cellulitis beyond the external ear canal**
- **Manage any underlying causes or risk factors**

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Self-Care & Advice

- **Provide advice on self-care measures** for symptom relief and to reduce risk of recurrent infection.
- Avoid damage to the external ear canal:
- Troublesome ear wax should be removed safely to avoid damaging the ear canal. Cotton buds or other objects should not be used to clean the ear canal.
- If ear wax is a problem, advise use of olive oil for two weeks, and if this persists, sodium bicarbonate drops for 3-5 days (if no suggestion of perforated tympanic membrane). Refer to ear wax pathway.
- Keep the ears clean and dry.
- Avoid swimming and water sports for at least 7–10 days during treatment.
- 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.
- Consider use of over-the-counter acetic acid 2% ear drops or spray (for people aged 12 years and older) morning, evening, and after swimming, showering, or bathing, for a maximum of 7 days.

Provide advice on sources of information and support:

- **The patient.info leaflet - https://patient.info/ears-nose-throat-mouth/earache-ear-pain/ear-infection-otitis-externa**
- **The NHS patient leaflet - https://www.nhs.uk/conditions/ear-infections/**

Click for more info

Consider Seeking Specialist Advice

Seek specialist advice or arrange referral to an ENT specialist, the urgency depending on clinical judgement, if:

- Symptoms persist despite optimal management in primary care.
- There is severe infection not responding to management in primary care.
- The person is elderly, has poorly controlled diabetes mellitus or another cause of immunocompromise, depending on clinical judgement.
- There is external ear canal occlusion due to ear discharge, swelling, or debris which is stopping topical treatment working effectively.
- Specialist 'aural toilet' including microsuction, ear wick insertion, or use of systemic antibiotics may be needed.
- There is cellulitis extending beyond the external ear canal which cannot be managed in primary care. Systemic antibiotics may be needed, following specialist advice.
- Suspected cholesteatoma (e.g. abnormal attic, painless discharge)
- Chronic ongoing infection interfering with hearing aid use

Consider referral to a dermatology specialist if contact sensitivity to neomycin or another aminoglycoside ear preparation, ear plugs, hearing aids, or earrings, is suspected.

- Patch testing to confirm contact sensitivities may be needed.