### 12.1 - Drugs acting on the ear
12.1.1 Otitis externa

If eardrum is not perforated

<table>
<thead>
<tr>
<th>1st Choice</th>
<th>Otomize® (dexamethasone 0.1%, neomycin 3250 units/ml, glacial acetic acid 2%) or Sofradex® (dexamethasone 0.05%, framycetin 0.5%, gramicidin 0.005%) or Acetic Acid 2% (Earcalm®) for chronic otitis externa/itchy ears</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd Choice</td>
<td>Gentisone HC® (gentamicin 0.3%, hydrocortisone 1%)</td>
</tr>
</tbody>
</table>

If eardrum is perforated or suspected perforation

<table>
<thead>
<tr>
<th>1st Choice</th>
<th>Sofradex® or Ciprofloxacin eye drops (Ciloxan®) (off-label use)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd Choice</td>
<td>Locorten-Vioform® (flumetasone 0.02%, clioquinol 1%)</td>
</tr>
</tbody>
</table>

**Suspected Fungal Infection**

Clotrimazole (Canesten®) solution 1%

### Prescribing Points

- Topical treatment is the mainstay of therapy for otitis externa. Systemic antibiotics are usually ineffective. Systemic antibiotics should only be used when there is surrounding cellulitis.
- Topical anti-infectives should be used for a minimum of 10 days and for a maximum of 14 days.
- It is often difficult to differentiate between infection and inflammation, therefore a combined preparation of an antibacterial and a corticosteroid is a suitable first choice option.
- Otomize® spray is regarded as the 1st line choice as the spray is easy to use.
- Topical aminoglycosides (gentamicin, neomycin, framycetin) are contraindicated by the manufacturers in patients with a perforated eardrum due to the risk of ototoxicity. However there is good evidence (ENT-UK Consensus Statement 2007) to suggest it is safe to use these products in patients with perforated eardrums.
- Ciprofloxacin eye drops (Ciloxan®) (off-label) may be used in chronic cases.
- Treatment with an antifungal agent (clotrimazole) should be considered in cases that fail to respond to a two week course of products containing an antibacterial agent.
- Eczema of the outer canal and pinna may need treatment with a steroid preparation e.g. hydrocortisone cream or Synalar® Gel (can also be used in the ear canal).
- For treatment of acute otitis media refer to NHS Fife Guidance - Treatment of Community Managed Infections
  [www.fifeadtc.scot.nhs.uk/formulary/support%20info/Primary%20Care%20Antibiotic%20Guidelines.pdf](http://www.fifeadtc.scot.nhs.uk/formulary/support%20info/Primary%20Care%20Antibiotic%20Guidelines.pdf)
12.1.3 Removal of ear wax

1st Choice
Almond oil or Olive oil
2nd Choice
Sodium bicarbonate ear drops

Prescribing Points

- Wax need only be removed if it causes hearing loss or interferes with a proper view of the ear drum.
- If the wax is hard and impacted, drops can be used once or twice daily for up to 14 days, this may reduce the need for mechanical removal of the wax. Ear wax may be removed by syringing with warm water.
- Some proprietary products e.g. Cerumol®, Otex® contain organic solvents which may irritate the meatal skin. These products are considered less suitable for prescribing by the BNF and should not be prescribed. Almond oil or olive oil is just as effective, less expensive and less likely to cause irritation.

12.2 - Drugs acting on the nose

12.2.1 Drugs used in nasal allergy

Twice daily
Beclometasone nasal spray
Mometasone nasal spray
Fluticasone furoate (Avamys®) nasal spray

Once-daily

Nasal polyps

1st Choice
S - Betamethasone sodium phosphate drops
2nd Choice
S - Fluticasone (Flixonase Nasules®)

Prescribing Points

- Beclometasone nasal spray is the cheapest steroid nasal spray but needs to be used twice daily.
- There is no convincing evidence that one steroid spray is more effective or better tolerated than another. Choice of nasal spray should be governed by cost, safety and patient preference.
- For 'as-required' treatment of occasional symptoms, consider an oral antihistamine.
- To control frequent or persistent symptoms a corticosteroid nasal spray is the recommended first line treatment.
- For seasonal allergic rhinitis treatment with an oral antihistamine is preferred. Prophylaxis with a nasal spray should begin 2-3 weeks before the start of the pollen season and be continued for at least 2 months or throughout the season.
- Compliance is essential for efficacy so patients should be counselled on the importance of regular treatment for 2 – 3 months and good nasal spray technique in controlling symptoms. Patients should only be referred to secondary care after an adequate trial of at least one once daily nasal spray has proved ineffective in relieving symptoms.
- If symptoms persist consider combining an oral antihistamine with an intranasal steroid and increase the steroid dose up to the maximum licensed dose.
- Failure to respond to treatment may indicate the presence of nasal polyps. These require treatment for 6 - 12 weeks with corticosteroid drops followed by long term treatment with a corticosteroid nasal spray.
12.2.2 Topical nasal decongestants

**Sodium chloride drops**

**Xylometazoline**

### Prescribing Points

- In children, sodium chloride 0.9% nasal drops may relieve nasal congestion by helping to liquefy mucous secretions and can be used from 1 month and upwards.
- Treatment with topical nasal decongestants should be limited to a maximum of 7 days to prevent rebound congestion.
- Xylometazoline should not be used in children under 6 years.

### Antimuscarinics

**Ipratropium (Rinatec®)**

### Prescribing Points

- Ipratropium may be useful in vasomotor rhinitis with watery rhinorrhoea.

12.2.3 Nasal preparations for infection

#### Treatment of Staphylococcal infection

<table>
<thead>
<tr>
<th>1st Choice</th>
<th>2nd Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naseptin® (chlorhexidine 0.1%, neomycin 0.5%)</td>
<td>R- Mupirocin (Bactroban Nasal®)</td>
</tr>
</tbody>
</table>

#### MRSA Eradication/Decolonisation

| R- Mupirocin (Bactroban Nasal®) (as part of a combination regime) |

### Prescribing Points

- Naseptin® is 1st line treatment for recurrent paediatric epistaxis and for adult epistaxis after cauterisation. Naseptin® is also used for the treatment of staphylococcal infections.
- Naseptin® contains arachis oil and should not be used in patients with peanut allergy.
- R - Mupirocin nasal ointment should be reserved for eradication / decolonisation of MRSA. Refer to NHS Fife Infection Control Manual. [https://intranet.fife.scot.nhs.uk/subjects/index.cfm?fuseaction=service.display&pageid=7A5F5BB2-5056-8C6F-C0E12BB07758F462](https://intranet.fife.scot.nhs.uk/subjects/index.cfm?fuseaction=service.display&pageid=7A5F5BB2-5056-8C6F-C0E12BB07758F462)
- Mupirocin may also be used as an alternative if Naseptin® is unavailable or if patients experience local sensitivity with Naseptin® or in patients with peanut allergy. To avoid resistance treatment should not be for longer than 7 days.

12.3 - Drugs acting on the oropharynx

12.3.1 Drugs for oral ulceration and inflammation

**Also see Guidance on Mouth care in Palliative care via the ADTC website**


**Benzylamine (Difflam®)**

**Choline salicylate**
Prescribing Points

- Oral ulceration can be due to a variety of underlying causes. It is important to establish the diagnosis in each case as the majority of these lesions require specific management in addition to local treatment.
- Patients with an unexplained mouth ulcer of more than 3 weeks’ duration require urgent referral to hospital to exclude oral cancer.
- Local treatment aims to protect the ulcerated area, to relieve pain, to reduce inflammation, or to control secondary infection.
- Benzydamine relieves the pain of inflammatory conditions and is also effective in reducing the discomfort of post-irradiation mucositis. Some patients find that the full-strength mouthwash causes stinging and in these cases it can be diluted with an equal volume of water.
- Benzydamine oral rinse may be used 10 minutes before meals to relieve pain due to aphthous ulcers.
- Choline salicylate oral gel is recommended as an analgesic for the pain from mouth ulcers.
- Choline salicylate gel is not recommended for children under the age of 16 due to the risk of Reye’s syndrome.
- Products containing local anaesthetics e.g. Calgel® (from 3 months) can be used for teething pain in babies.
- Hydrocortisone oromucosal tablets can be placed on the ulcer and allowed to dissolve four times daily.
- A saline mouthwash made up with warm water (see section 12.3.4) may relieve the pain of traumatic ulceration and radiotherapy mucositis.

12.3.2 Oropharyngeal anti-infective drugs
Also see Appendix 12A - Guidance for the Management and Treatment of Thrush (Candidiasis) in Breastfeeding

Prescribing Points

- Most oropharyngeal fungal infections are due to candida. Treatment with nystatin and miconazole should be continued for 48 hours after lesions have cleared, up to a maximum of 7 days.
- Fluconazole (see section 5.2.1) may be required to be given orally for infections that do not respond to topical therapy, in immunocompromised patients or when topical therapy cannot be used.
- If candidal infection fails to respond to a course of treatment with fluconazole. A swab should be taken to establish if the strain is susceptible to fluconazole. If this does not explain treatment failure then the patient should be sent for investigation to eliminate the possibility of underlying disease.
- Patients with asthma or COPD who use corticosteroid inhalers often develop laryngeal irritation and/or candidiasis. Patients should be advised to rinse out their mouth after use of the inhaler. A spacer device can also help. See Chapter 3 - Respiratory.
12.3.3 Lozenges, sprays and gels
No products recommended

Prescribing Points
- There is no convincing evidence that antiseptic lozenges and sprays have a beneficial action.
- Chronic hoarseness, not associated with a sore throat, may be due to laryngeal reflux. Appropriate investigations to eliminate malignancy should be carried out prior to initiating treatment for laryngeal reflux. Laryngeal reflux can be treated with an alginic acid antacid and/or proton pump inhibitors (off-label use). Formulary choice PPIs for laryngeal reflux are omeprazole and lansoprazole. See sections 1.1.2 and 1.3.5.

12.3.4 Mouthwashes, gargles and dentifrices

### Saline mouthwash

### Chlorhexidine

### Hydrogen peroxide 6% solution

Prescribing Points
- A saline mouthwash is prepared by dissolving half a teaspoonful of salt in a glassful of warm water.
- Chlorhexidine is an effective antiseptic which inhibits plaque formation on the teeth and is used in the treatment of denture stomatitis, controlling gingivitis and also for the prevention of oral candidiasis in immunocompromised patients.
- Chlorhexidine may cause temporary brown staining of teeth. Chlorhexidine is incompatible with some ingredients in toothpastes. A 30 minute interval should be left between use of chlorhexidine and use of toothpaste.
- Hydrogen peroxide may be useful in the treatment of acute ulcerative gingivitis (Vincent’s infection) and for the prevention of post-op bleeding after a tonsillectomy.

12.3.5 Treatment of dry mouth

### Artificial saliva e.g.

- AS Saliva Orthana<sup>®</sup> spray
- Biotene Oralbalance<sup>®</sup> gel
- Bioxtra<sup>®</sup> Gel/Spray
- Glandosane<sup>®</sup> spray
- Salivix<sup>®</sup> pastilles

Prescribing Points
- Dry mouth can be relieved by simple measures such as frequent sips of cool drinks or sucking pieces of ice. Saliva stimulants e.g. sugar-free fruit pastilles or sugar-free chewing gum are preferred to artificial saliva substitutes. Saliva stimulants should not be used if the salivary duct is blocked.
- Salivix<sup>®</sup> pastilles can be considered in patients unable to tolerate chewing gum.
- If a saliva replacement product is needed artificial salivas with a neutral pH are preferred for long-term use. Acidic preparations e.g. Glandosane<sup>®</sup>, Salivix<sup>®</sup> should not be used for patients with their own teeth as they can cause demineralisation of teeth and pain in mucositis, Saliva Orthana<sup>®</sup> is suitable for dentate patients although it contains pig gelatin which may not be suitable for all patients.
- The preparation chosen should take into account patient preference for formulation and taste. For maximum effect products should be used frequently including before and during meals.
- Biotène Oralbalance<sup>®</sup> can be used for any condition causing a dry mouth. BioXtra<sup>®</sup>, Glandosane<sup>®</sup>, Saliva Orthana<sup>®</sup>, and Salivix<sup>®</sup> are only ACBS approved for dry mouth associated with radiotherapy or...
sicca syndrome.