### PRIMARY CARE MANAGEMENT GUIDELINES

**Otitis Media in Children**

**Otitis media (OM)**: Inflammation of the middle ear with evidence of fluid in the middle ear e.g. inflamed tympanic membrane (TM), bulging TM, desquamated epithelium on TM. Subcategories include:

- **Acute Otitis Media (AOM)**: presents with systemic and local signs and has a rapid onset.
- **Otitis Media with Effusion (OME)**: is characterised by fluid (serous or mucoid but not mucopurulent) in the middle ear and without acute symptoms.
- **Recurrent Otitis Media**: at least 3 episodes of acute otitis media in past 6 months or 4 in past 12 months.

<table>
<thead>
<tr>
<th>CLINICAL PROBLEM (Clinical Determinants)</th>
<th>ACTIONS</th>
<th>LOCAL IMPLEMENTATION REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACUTE OTITIS MEDIA (AOM)</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| All patients                            | • Analgesia e.g. paracetamol<sup>2</sup>  
• Review at 6 weeks for otitis media with effusion (OME)  
• Intranasal steroids if nasal allergy present<sup>3</sup>  
• Review in 48hrs if symptoms persist | [Local preference for topical steroid regimes and duration] |
| With mastoiditis, facial weakness, vertigo or meningitis | Consult Specialist urgently | [Local ENT specialist phone number] |
| With aural discharge                     | • Aural toilet (suctioning or wick)  
• Steroid + antibiotic eardrops until discharge stops  
• Review after 48hrs if symptoms persist | |
| Age <2 years<sup>4</sup> and temperature >38.0° OR Vomiting on presentation<sup>5</sup> | • Amoxycillin for 5-10 days<sup>5,6</sup>  
• Review within 24 hours | [Must specify local preference for standard or high dose<sup>6</sup> antibiotic treatment regimes and duration] |
| With fever and pain for 3 days (and not already on antibiotics) | • Amoxycillin for 5-10 days<sup>5,6</sup>  
• Review after 3 days if symptoms persist | [As above] |
| Acute symptoms not improving with 3 days of antibiotic treatment | • Change antibiotic to second line<sup>7</sup> AND  
• Review after 3 days if symptoms persist | [Local preference for antibiotic treatment regimes and duration] |
| Acute symptoms uncontrolled after 3 days of second antibiotic | Consult Specialist | [Local ENT specialist phone number] |

**RECURRING EPISODES OF AOM**

<table>
<thead>
<tr>
<th>ACTIONS</th>
<th>LOCAL IMPLEMENTATION REQUIREMENTS</th>
</tr>
</thead>
</table>
| All patients | • Avoid passive smoking  
• Intranasal steroids if nasal allergy present<sup>3</sup>  
• Treat each episode as in AOM | |
| More than 6 episodes per year | Consult Specialist | [Direct access for grommet insertion may be considered in certain DHBs when these criteria have been met]  
[Some areas may see patients with less than 6 episodes per year. Ask your ENT clinic, and give guidance here] |

**OTITIS MEDIA WITH EFFUSION (OME)**

<table>
<thead>
<tr>
<th>ACTIONS</th>
<th>LOCAL IMPLEMENTATION REQUIREMENTS</th>
</tr>
</thead>
</table>
| First presentation of effusion (at least 6 weeks from episode of AOM) | • Eustachian tube exercises<sup>9</sup>  
• Avoid passive smoking  
• Review in 6 weeks | |
| Bilateral effusion present for more than 3 months (confirmed at least once in the interim) | Consult Specialist  
AND  
Antibiotic course | [Local variations:  
- how long waiting list is  
- duration of effusion before pt seen  
- patients only seen/grommets if hearing loss or balance problems or language delay or nocturnal waking  
Specialists to specify the antibiotic and duration, prior to referral or while waiting for appt  
Include in referral how many acute episodes in last 12 months, duration of antibiotic treatments, any co-morbidities, e.g. asthma, Downs, etc] |
| Unilateral effusion present for more than 3 months and less than 12 months | Review at 12 months for presence of effusion | |
| Unilateral effusion present for more than 12 months | Consult Specialist | |

SEE NOTES ON REVERSE >>>

---

<sup>1</sup> Acute Otitis Media (AOM): presents with systemic and local signs and has a rapid onset.

<sup>2</sup> Otitis Media with Effusion (OME): is characterised by fluid (serous or mucoid but not mucopurulent) in the middle ear and without acute symptoms.

<sup>3</sup> Recurrent Otitis Media: at least 3 episodes of acute otitis media in past 6 months or 4 in past 12 months.

<sup>4</sup> Age <2 years and temperature >38.0° OR Vomiting on presentation.

<sup>5</sup> Local ENT specialist phone number.

<sup>6</sup> Must specify local preference for standard or high dose antibiotic treatment regimes and duration.

<sup>7</sup> Local preference for antibiotic treatment regimes and duration.

<sup>8</sup> Direct access for grommet insertion may be considered in certain DHBs when these criteria have been met.

<sup>9</sup> Some areas may see patients with less than 6 episodes per year. Ask your ENT clinic, and give guidance here.

<sup>10</sup> Direct access for grommet insertion may be considered in certain DHBs when these criteria have been met.
NOTES:

1. Otitis media:
   - A tender, swollen ear canal usually indicates otitis externa rather than otitis media.
   - The absence of the so-called "light reflex" is not a valid indicator of ear disease.
   - In a crying child there may be uniform injection of the drum without infection being present.

2. Analgesia with paracetamol (first line) or ibuprofen (second line). Ibuprofen should be used with care in dehydrated children. (Reference A).

3. Therapy with decongestants, antihistamines and steroids has not been shown to be beneficial unless there are associated allergies. Recovery from associated allergies can be prolonged. Recommended treatment 4-week course of antihistamines or nasal steroids. In some cases both may be required to control the Rhinitis. (Reference A, J).


5. There is no evidence to recommend that 5, 7 or 10 days antibiotic duration is optimal. Antibiotics have been shown to provide symptomatic benefit on day 3 (Reference I) or day 4 (Reference H). The latter study showed that 17 patients needed to be treated with antibiotics for one to receive benefit at 6 weeks after onset of otitis media. Little et al 2002 (Reference I) only evaluated symptomatic benefit at day 3, and found that the presence of fever or vomiting significantly predicted a beneficial effect from antibiotics at day 3 (age 6 months to 10 years).

6. 'Standard dose' amoxycillin 25-50 mg/kg/day in two or three doses.
   If allergic to penicillin use co-trimoxazole or erythromycin (Reference B). Cefaclor is among the least active of the cephalosporins against S. pneumoniae.

7. Second-line treatment – broad-spectrum antibiotic e.g. amoxycillin clavulanate. If allergic to penicillin could use co-trimoxazole or erythromycin (Reference B). Cefaclor is among the least active of the cephalosporins against S. pneumoniae.

8. Tympanometry is generally reliable for identifying middle ear effusions and negative middle ear pressure; however, it is not infallible. Pneumatic otoscopy may also be used to confirm middle ear effusion.
   - Tympanometry should only be performed on children over the "physical age" of nine months i.e. for children born premature, take the time from their expected date of delivery as their "physical age". Tympanometry is very reliable for confirming normality. i.e. Type "A" would confirm no abnormality regardless of appearances present.
   - Visual features of OME are: Tympanic Membrane (TM) discoloured, thinned or retracted. On pneumatic otoscopy TM sluggish or retracted.
   - Otoscopy alone is not always capable of identifying a non-infected middle ear effusion or TM retraction.
   - The presence of bubbles behind TM may indicate healing or improvement.

9. Eustachian tube exercises - auto inflation with nasal balloon is less effective in persistent OME.

10. 90% of OME resolve spontaneously within 3 months.

11. The child's hearing disability may now compromise speech development, hearing at school etc.

REFERRAL LETTER INFORMATION

Overall requirements
- Demographics
- Critical determinants leading to referral

Implementation item specific requirements
- Aural discharge: Yes/No
- Tympanometric results
- Hearing loss: Present/Absent
- Language delay: Present/Absent

ADDITIONAL INFORMATION

The Elective Services Otolaryngology (ENT) National Referral Guidelines & Clinical Assessment Criteria and the Otitis Media in Children Primary Care Management Guidelines can be found at: www.electiveservices.govt.nz

REFERENCES

D. NZGG Acute Otitis Media Evidence Full Text Guideline
E. MoH National ORL Referral and Assessment Guidelines. www.electiveservices.govt.nz

This management guideline has been prepared to provide general guidance with respect to a specific clinical condition. It should be used only as an aid for clinical decision making and in conjunction with other information available. The material has been assembled by a group of primary care practitioners and specialists in the field. Where evidence based information is available, it has been utilised by the group. In the absence of evidence based information, the guideline consists of a consensus view of current, generally accepted clinical practice.