PAEDIATRIC ACUTE CARE GUIDELINE	
Otitis Media	
Scope (Staff):	All Emergency Department Clinicians
Scope (Area):	Emergency Department

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Otitis Media

Otitis media is an infection of the middle ear cavity.

Background

Otitis media can be divided into 3 separate clinical entities that are managed differently:

- Acute otitis media
- Otitis media with effusion (glue ear)
- Chronic suppurative otitis media

General

Acute Otitis Media (AOM):

- This is a common cause of children presenting to a GP or an emergency department
- Peak age is 6-18 months and almost all children have at least one episode
- The underlying cause is viral, bacterial or both in combination
- Bacterial causes can include *Streptococcus pneumoniae, Haemophilus influenza* and *Moraxella catarrhalis*
- The diagnosis of AOM is not always clear, particularly in the infant

Otitis Media with Effusion (Glue Ear):

- Glue ear is an uncommon presenting complaint in an emergency department as it is usually asymptomatic, although it can cause balance issues

- It may be found as part of a routine assessment, although it is not readily diagnosed without tympanometry or pneumotoscopy
- Glue ear is a common problem in young children that follows acute otitis media, is largely self-resolving and needs no intervention
- In about 10% of patients it persists longer than 3 months
- Its importance lies in whether it is affecting hearing (conductive hearing loss) and therefore language development
- Assessment of hearing by formal audiology is indicated for persistent glue ear (beyond 3 months) or if there are other indications, such as parental concern about hearing

Chronic Suppurative Otitis Media:

- This is defined as a chronic discharging otitis media
- It is a less common complication of acute otitis media, or a recurrent problem in some children with either a chronic perforation or a grommet
- There is a copious, non-painful, white, yellow or green discharge, with no evidence of ear canal inflammation
- It is often difficult to treat and if not of a very recent onset usually contains multi-resistant organisms such as *Pseudomonas* or *Proteus* species

Risk factors

- Low socio-economic status
- Indigenous
- Immunocompromised
- Down syndrome
- Other risk factors may include: cigarette smoking and attending daycare

Assessment

- Otoscopy must be performed in all children
- No investigations are required

History

Acute Otitis Media:

- The child will present with an acute onset of a painful ear and fever, often following a prodrome of an upper respiratory tract infection
- A younger child may present more non-specifically with fever, crying/screaming/unsettled and possibly vomiting

Otitis Media with Effusion (Glue Ear):

- Usually asymptomatic but can cause balance issues
- There is no pain

Chronic Suppurative Otitis Media:

- Non painful copious discharge from the ear

Examination

Acute Otitis Media:

- Middle ear effusion (dull or opaque, bulging tympanic membrane, air-fluid level, otorrhoea)
- Significant erythema of the tympanic membrane
- There may be other signs of an upper respiratory tract infection: coryza, cough, erythematous pharynx or tonsils
- A mildly red ear drum with no pain should not lead to a diagnosis of otitis media
- There may be perforation of the tympanic membrane and otorrhoea (purulent), which will relieve the pain

Otitis Media with Effusion (Glue Ear):

- Fluid behind the tympanic membrane, best diagnosed by tympanometry or pneumotoscopy

Chronic Suppurative Otitis Media:

- Discharge from the ear canal with no evidence of inflammation
- Usually copious, non painful, white, yellow or green discharge

Investigations

- Ear swabs are not required

Management

- First line management of acute otitis media is supportive with analgesia
- Oral antibiotics should only be used initially in high risk children
- Chronic otitis media is treated with antibiotic ear drops
- Glue ear for more than 3 months needs referral for further assessment

Initial management

Acute Otitis Media:
Traditionally all acute otitis media has been treated with antibiotics. However, evidence would suggest that this at best shortens the duration of the pain by less than a day, and does not reduce the recurrence rate nor the complication rate of acute otitis media.
Hence, it is reasonable to consider supportive treatment in the first 48 hours of symptoms in low risk children. If symptoms persist or the child becomes worse, then antibiotics are indicated. In high risk children treatment with antibiotics is recommended.

Antibiotics:

- Amoxycillin is indicated as an appropriate first line choice, for a 5 day course
- More broad-spectrum antibiotics, such as Augmentin, are only indicated if there is no response to amoxycillin within 48 hours

Analgesia:

- Analgesia is most important, and often paracetamol alone is not adequate. Combination with ibuprofen (10mg/kg) is usually effective.
- Topical anaesthetic oil (Auralgin) can also be helpful – if there is no perforation present. It provides immediate but short term relief (10-20 minutes).

Otitis Media with Effusion (Glue Ear):

- There is much controversy over the treatment of glue ear
- Watch and wait for 3 months. If there is no improvement, a 4 week course of broad spectrum antibiotics may be trialled.
- A history of atopy may warrant the use of a steroid nasal spray
- Hearing loss warrants insertion of grommets +/- adenoidectomy. (There is evidence that adenoidectomy reduces the need for further grommets by 50%).
- The threshold for grommets is lower in children with impaired intellectual and cognitive abilities with a mild hearing loss

Chronic Suppurative Otitis Media:

- Topical antibiotics have been shown to be most effective, and usually ciprofloxacin drops are used, for a maximum of 2 weeks
- Dry ear toilet with tissue spears can be used, or the patient can lie on their side with the affected side down, prior to the eardrops
- A more effective toilet is using a 1 : 20 Betadine solution irrigation via a syringe, followed by drying with a tissue spear

Referrals and follow-up

- Children with otitis media with effusion or chronic suppurative otitis media should be referred to an Audiologist and an Ear Nose and Throat Surgeon for further assessment
- Investigations may include audiology, tympanometry and pneumatoscopy
- Children can be considered for grommet insertion +/- adenoidectomy
- Speech and language assessment may also be required

Tags

antibiotics, aom, bacterial, bulging, chronic suppurative otitis media, discharge, ear ache, ear toilet, earache, effusion, erythema, fever, glue ear, grommet, inflammation, inflammed, middle ear, ome, otalgia, otitis media, otorrhoea, pain, red, sore, spears, tm, tympanic membrane, viral

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