SYDNEY CHILDREN'S HOSPITAL

OTITIS MEDIA - ED SCH

PRACTICE GUIDELINE ©

DOCUMENT SUMMARY/KEY POINTS

- This document is intended as a brief summary of the management of the child presenting with a sore ear/otitis media in the Emergency Department. If more information is required the NSW Kids & Family Guideline "Otitis Media Acute Management of Sore Ear" or the senior doctor on duty in the ED should be consulted.
- Ear problems are common in children.
- For children pain relief measures are helpful and antibiotics are only prescribed where clinically indicated.(1)
- Acute Otitis Media in children of Aboriginal and Torres Strait Islander background require special consideration.(1)

CHANGE SUMMARY

- SCH document due for mandatory review.
- Replaces SCH.C.16.E.2

READ ACKNOWLEDGEMENT

- All ED clinical staff: nurses and medical officers need to understand and acknowledge this document.

This document reflects what is currently regarded as safe practice. However, as in any clinical situation, there may be factors which cannot be covered by a single set of guidelines. This document does not replace the need for the application of clinical judgement to each individual presentation.

Approved by:	SCHN Policy Procedure & Guideline Committee	
Date Effective:	1st September 2015	**Review Period:** 3 years
Team Leader:	Staff Specialist	**Area/Dept:** Emergency Department SCH

Otitis Media

Clinical

A child with acute otitis media may present with ear pain, fever, hearing loss and malaise. Younger children may have less specific symptoms such as vomiting, irritability and anorexia.

Otoscopic examination should be performed with the pneumatic attachment to test for tympanic membrane mobility in addition to the drum's colour, lucency, presence of light reflex and ossicular landmarks.

In early otitis media the drum is immobile and yellow with dilated blood vessels, loss of a distinct light reflex and landmarks such as the handle of the malleus. Later the whole surface of the drum becomes red. If the drum has ruptured or a ventilation tube is in situ the canal will be filled with pus. In cases where the findings are doubtful, review the ear when the child is less febrile or distressed.

Diagnosis

The diagnosis of acute otitis media requires:

- A history of acute onset of signs and symptoms
- Presence of a middle ear effusion
  - Bulging or decreased mobility of the eardrum or
  - Air/fluid level visible or
  - Otorrhoea
- Signs and symptoms of middle ear inflammation
  - Distinct erythema of eardrum or
  - Distinct otalgia

Pathogens

The main bacterial pathogen is *Streptococcus pneumoniae*, with *Haemophilus influenzae* (non-typable), *Streptococcus pyogenes* and *Moraxella catarrhalis as less common pathogens isolated*. *Mycoplasma pneumoniae* may cause a bullous myringitis. Neonates may be affected by gram negative organisms and Staph aureus. The role of viruses is unclear.

Treatment

- **Analgesia** with paracetamol +/-ibuprofen. Topical analgesics are not effective.
- **Observation** without antibiotics is an option for selected children:
  - age 6 months – 2 years with uncertain diagnosis and follow up assured
  - age 2 years and over with mild illness or uncertain diagnosis
- Antibiotics are advised for:
  - All infants under 6 months.
  - Age 6 months – 2 years with certain diagnosis or uncertain diagnosis and severe illness.
  - Age 2 years and over with certain diagnosis and moderate/severe illness.
- **Antibiotics**.[2] The preferred antibiotic is amoxycillin 15mg/kg/dose up to 500mg 8-hourly.
- Trimethoprim-sulfamethoxazole (Bactrim) 4mg/kg/dose (up to 160mg) 12-hourly (based on trimethoprim component) and cefuroxime (3 months – 2 years 10 mg/kg (up to 125mg) 12-hourly; 2–12 years, oral 15 mg/kg (up to 500 mg) 12-hourly are options in cases of penicillin allergy(non-immediate/mild hypersensitivity).
- A five day oral course is recommended.
- Amoxycillin/clavulanate is recommended for cases unresponsive to first line therapy
  Note: Dosing is specific to product selected and based on the amoxycillin component:
  - **Up to 1 month old:** amoxycillin/clavulanate 25mg/mL (Augmentin) 15mg/kg 12-hourly
  - **1-2 months:** amoxycillin/clavulanate 25mg/mL (Augmentin) 15mg/kg (up to 500mg) 8-hourly
  - **2 months or older:** amoxycillin/clavulanate 80mg/mL(Augmentin Duo) 22.5mg/kg/dose (up to 875mg)-12 hourly
- **Antihistamines and decongestant** are of no benefit.
- **Tympanocentesis** should be considered for intracranial complications, neonates and children with immune deficiencies.
- **Admission** should occur for children with a toxic appearance, not tolerating oral fluids or presence of complications. Treat with a third generation cephalosporin (cefotaxime or ceftriaxone).

Follow up

An improvement should be evident by 2-3 days. Treatment failure may indicate incorrect diagnosis, development of a complication or presence of a resistant organism. If the initial treatment was amoxycillin, change to amoxycillin/clavulanate.

All children should be reviewed by the local doctor at 2 weeks for presence of a persistent effusion (glue ear) or healing of the tympanic membrane (if ruptured).

ENT consultation is advised for children with persistent hearing loss or speech delay, chronic effusion for more than 3 months, frequent episodes of otitis media or underlying pathology such as cleft palate or adenoidal hypertrophy.

Complications

- **Tympanic membrane rupture**. Generally heals well. Follow up with GP.
- **Deafness**. Usually due to persistent effusion
- **Bacteraemia.** Occurs in about 3% of children with acute otitis media. Generally appear more unwell than expected for otitis media alone.
- **Facial nerve pal**sy
- **Cholesteatoma**.
- **Mastoiditis.** Tenderness, redness and swelling behind the ear.
- **Intracranial complications**: Meningitis, brain abscess, lateral venous sinus thrombosis, benign intracranial hypertension. Suggested by irritability, headache, vomiting, lethargy, worsening ear pain, seizures.

References

1. NSW Health Infants and Children – Acute Management of Sore Ear – Otitis Media. http://www0.health.nsw.gov.au/policies/gl/2014/pdf/GL2014_023.pdf
2. Empiric Antibiotic Guidelines- SCH http://chw.schn.health.nsw.gov.au/o/documents/policies/policies/2012-7004.pdf
3. Antibiotic Expert Groups. Therapeutic guidelines: antibiotic. Version 15. Melbourne: Therapeutic Guidelines Limited; 2014.
4. AMH Children's Dosing Companion (online). Adelaide: Australian Medicines Handbook Pty Ltd; 2015 January. Available from: https://childrens.amh/net.au [Accessed on 10th June 2015]