# Otitis media

## *Executive summary*

## Introduction

## Acute otitis media (AOM) is a self-limiting infection of the middle ear mainly affecting children. It can be caused by viruses and bacteria, and both are often present at the same time. Symptoms last for about 3 days, but can last for up to 7 or 8–most children get better within 3 days without antibiotics. Antibiotics make little difference to the rates of common complications, such as hearing loss (which is usually temporary), perforated eardrum and recurring Infection. Acute otitis media is uncommon in adults.

A particular subtype of AOM is acute suppurative otitis media (OM), which is characterized by the presence of pus in the middle ear. If the ear drum perforates then ear discharge will be present. The perforation usually heals spontaneously.

## Target users

* Doctors
* Nurses

## Target area of use

* Gate clinic
* Outpatient department
* Ward

## Key areas of focus / New additions / Changes

This guideline addresses recognition and treatment of otitis media.

## Limitations

None

## Presenting symptoms and signs

* earache (in older children)
* pulling, tugging, or rubbing of the ear
* non-specific symptoms such as fever, irritability, crying, poor feeding
* restlessness at night
* cough
* rhinorrhoea (in younger children)
* fever

## Examination findings

Examination with an otoscope may show signs of:

* a distinctly red, yellow or opaque ear drum
* moderate to severe bulging of the ear drum with loss of normal landmarks
* an air-fluid level behind the ear drum
* perforation of the ear drum or discharge in the external auditory canal

In babies under 6 months, diagnosis can be difficult because of non-specific symptoms or coexisting systemic illness and examination with an otoscope can be more challenging.

## Management

Acute otitis media could have a viral or bacterial cause, and distinguishing between these is difficult. Both are usually self-limiting and do not routinely need antibiotics. Antibiotics should be used if:

* symptoms significantly worsen or do not improve within 3 days
* child is under 2 years with acute otitis media in both ears
* children of any age with otorrhoea (discharge following perforation of the ear drum)
* children that are systemically very unwell
* children at high risk of complications because of pre-existing comorbidity e.g AOM in the only hearing ear, AOM post cochlear implant and immunocompromised states.

Oral analgesia: Paracetamol 10-15 mg/kg/dose TDS/QDS or Ibuprofen 5-10 mg/kg/dose TDS

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| **Antibiotics to use in AOM** | | |
| ***First choice*** | | |
|  | Amoxicillin | <12 years: 80 mg/kg TDS for 7 days  >12 years: 500 mg TDS for 7 days |
| *In penicillin allergy use* | Erythromycin (in pregnancy) | >8 years: 250 mg to 500 mg QDS for 7 days or 500 to 1000 mg BD for 7 days |
|  | Azithromycin | 10 mg/kg OD for 3 days |
| ***Second choice*** | | |
|  | Co-amoxiclav | 80-90 mg/kg/day BD for 7 days |

The symptoms of AOM should resolve within 72 hours of initiating antibiotic treatment.

## Complications of AOM include:

## Tympanic membrane perforation: AOM with TM perforation is common and results in otorrhoea and frequently, relief of pain.

## Acute mastoiditis (AM): Acute mastoiditis, although rare, is the most common suppurative complication of AOM and may be associated with intracranial complications. The diagnosis of AM is based on post-auricular inflammatory signs (erythema, oedema, tenderness or fluctuance), a protruding auricle/external auditory canal oedema and signs of AOM. ENT involvement is required and some cases may require surgical treatment.

## Otitis Media with Effusion (OME)

## Otitis media with effusion, previously termed serous otitis or glue ear, is fluid in the middle ear and is often asymptomatic, other than transient hearing impairment

Antibiotics and ENT referral are not routinely required for OME, as the majority of cases occur after an episode of AOM and resolve spontaneously with no long term effects on language, literacy or cognitive development. The effusion may persist for up to 1 month in 50% of patients and up to 3 months in 10% of patients despite bacteriological cure.

## If effusion persists for more than 3 months, refer for hearing assessment and ENT review.

## References

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