Otitis media (acute): antimicrobial prescribing

NICE National Institute for Health and Care Excellence

Acute otitis media

Advise:
- acute otitis media lasts about 3 days but can last up to 1 week

Otorrhoea (discharge after ear drum perforation) in any child or young person

or

Under 2 years with infection in both ears?

No

- Offer regular doses of paracetamol or ibuprofen for pain
- Consider no antibiotic or a back-up antibiotic prescription

Yes

- Offer regular doses of paracetamol or ibuprofen for pain
- Consider no antibiotic, a back-up antibiotic prescription or an immediate antibiotic

When no antibiotic given, advise:
- antibiotic is not needed
- seeking medical help if symptoms worsen rapidly or significantly, do not start to improve after 3 days or the child or young person becomes very unwell

With a back-up antibiotic prescription, advise:
- antibiotic is not needed immediately
- use prescription if no improvement in 3 days or symptoms worsen
- seeking medical help if symptoms worsen rapidly or significantly, or the child or young person becomes very unwell

With an immediate antibiotic prescription, advise:
- seeking medical help if symptoms worsen rapidly or significantly, or the child or young person becomes very unwell

Reassess at any time if symptoms worsen rapidly or significantly, taking account of:
- other possible diagnoses
- any symptoms or signs suggesting a more serious illness or condition
- previous antibiotic use, which may lead to resistant organisms

If the child or young person:

is systemically very unwell, or

has symptoms and signs of a more serious illness or condition, or

has high risk of complications

- Offer an immediate antibiotic prescription

Refer to hospital if:
- severe systemic infection, or
- complications like mastoiditis

Non-antimicrobial treatments

- Offer regular doses of paracetamol or ibuprofen for pain. Use the right dose for the age or weight of the child at the right time, and use maximum doses for severe pain
- Consider ear drops containing an anaesthetic and an analgesic for pain if an immediate antibiotic is not given. and there is no ear drum perforation or otorrhoea
- Evidence suggests that decongestants or antihistamines do not help symptoms

Evidence on antibiotics

- Antibiotics make little difference to the number of children whose symptoms improve
- Antibiotics make little difference to the number of children with recurrent infections, short-term hearing loss or perforated ear drum
- Complications (such as mastoiditis) are rare with or without antibiotics
- Possible adverse effects include diarrhoea and nausea

Groups who may be more likely to benefit from antibiotics

- Children and young people with acute otitis media and otorrhoea (discharge following ear drum perforation)
- Children under 2 years with acute otitis media in both ears

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Choice of antibiotic: children and young people under 18 years

Antibiotic[1]	Dosage and course length[2]
First choice	
Amoxicillin	1 to 11 months: 125 mg three times a day for 5 to 7 days 1 to 4 years: 250 mg three times a day for 5 to 7 days 5 to 17 years: 500 mg three times a day for 5 to 7 days
Alternative first choice for penicillin allergy or intolerance (for people who are not pregnant)	
Clarithromycin	1 month to 11 years: Under 8 kg: 7.5 mg/kg twice a day for 5 to 7 days 8 to 11 kg: 62.5 mg twice a day for 5 to 7 days 12 to 19 kg: 125 mg twice a day for 5 to 7 days 20 to 29 kg: 187.5 mg twice a day for 5 to 7 days 30 to 40 kg: 250 mg twice a day for 5 to 7 days or 12 to 17 years: 250 mg to 500 mg twice a day for 5 to 7 days
Alternative first choice for penicillin allergy in pregnancy	
Erythromycin	8 to 17 years: 250 mg to 500 mg four times a day or 500 mg to 1,000 mg twice a day for 5 to 7 days Erythromycin is preferred if a macrolide is needed in pregnancy, for example, if there is true penicillin allergy and the benefits of antibiotic treatment outweigh the harms. See the Medicines and Healthcare products Regulatory Agency (MHRA) Public Assessment Report on the safety of macrolide antibiotics in pregnancy
Second choice (worsening symptoms on first choice taken for at least 2 to 3 days)	
Co-amoxiclav	1 to 11 months: 0.25 ml/kg of 125/31 suspension three times a day for 5 to 7 days 1 to 5 years: 5 ml of 125/31 suspension three times a day or 0.25 ml/kg of 125/31 suspension three times a day for 5 to 7 days 6 to 11 years: 5 ml of 250/62 suspension three times a day or 0.15 ml/kg of 250/62 suspension three times a day for 5 to 7 days 12 to 17 years: 250/125 mg three times a day or 500/125 mg three times a day for 5 to 7 days
Alternative second choice for penicillin allergy or intolerance	
Consult local microbiologist	

[1] See the BNF for children for appropriate use and dosing in specific populations, for example, hepatic impairment and renal impairment.
[2] The age bands apply to children of average size. In practice, the prescriber will use age bands along with other factors such as the severity of the condition and the child's size in relation to the average size of children of the same age. Doses given are by mouth using immediate-release medicines, unless otherwise stated.

When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.