Public Health England

ACUTE OTITIS MEDIA in Primary Care

Royal College of General Practitioners

Background

Acute otitis media is an infection of the middle ear.

NICE Clinical Knowledge Summaries (CKS) provide the following definitions:

- **Acute otitis media (AOM)** - middle ear effusion associated with the acute onset of symptoms and signs of middle ear inflammation.
- **Recurrent AOM** - three or more episodes of AOM in 6 months, or four or more episodes in a year, with an absence of middle ear disease between episodes. However, there is no universal definition.
- **Persistent AOM (treatment failure)** - when people return for medical advice with the same episode of AOM, either because symptoms persist after initial management (no-antibiotics, delayed-antibiotics, or immediate-antibiotics prescribing strategy), or because symptoms are worsening.

This audit is only assessing patients that present with AOM and recurrent AOM under the age of 18 years. Each episode of recurrent AOM should be managed in the same way as a presentation of AOM. Patients with persistent AOM (treatment failure) are excluded from this audit because further antibiotic prescription may vary depending upon whether antibiotics had already been used in the initial management.

Aim

This audit evaluates antibiotic prescribing for acute otitis media symptoms against the ***NICE Guidelines CG69:*** *Respiratory tract infections – antibiotic prescribing: Prescribing of antibiotics for self-limiting respiratory tract infections in adults and children in primary care* and ***Public Health England (PHE)*** *Management of infection guidance for primary care for consultation and local adaptation.*

This audit tool can be modified to follow local infection management guidelines.

Audit requirements

Search for 30-40 consultation records relating to AOM in patients under the age of 18. The read codes listed below are a suggested sample of read codes which may be used when conducting this audit. This list is by no means exhaustive and clinicians are advised to use read codes which they use when seeing patients with AOM in order to generate the type of consultation required for this audit. Some GPs may find that searching for just one read code generates all the consultations they require for the audit.

2D94.00	O/E - tympanic membrane pink	F510011	Acute secretory otitis media
2D95.00	O/E - tympanic membrane red	F510100	Acute serous otitis media

2D96.00	O/E - tympanic membrane bulging	F510200	Acute mucoid otitis media
F51..00	Nonsuppurative otitis media + eustachian tube disorders	F510z00	Acute nonsuppurative otitis media NOS
F510.00	Acute non suppurative otitis media	F514.00	Unspecified nonsuppurative otitis media
F510000	Acute otitis media with effusion	F514100	Serous otitis media NOS
F514200	Catarrhal otitis media NOS	F520z00	Acute suppurative otitis media NOS
F514300	Mucoid otitis media NOS	F524.00	Purulent otitis media NOS
F514z00	Nonsuppurative otitis media NOS	F524000	Bilateral suppurative otitis media
F52..00	Suppurative and unspecified otitis media	F526.00	Acute left otitis media
F520.00	Acute suppurative otitis media	F527.00	Acute right otitis media
F520000	Acute suppurative otitis media tympanic membrane intact	F528.00	Acute bilateral otitis media
F520100	Acute suppurative otitis media tympanic membrane ruptured	F52z.00	Otitis media NOS
F520300	Acute suppurative otitis media due to disease EC	F52z.11	Infection ear

Method

Aim to include 30-40 consultations (with a minimum of 20 consultations) of patients with AOM under the age of 18 in order to determine overall compliance with NICE and PHE Primary Care guidance.

Compliance with the decision to treat a patient with a respiratory tract infection can be determined by using the care pathway present in the NICE Guidelines CG69: Respiratory tract infections – antibiotic prescribing: Prescribing of antibiotics for self-limiting respiratory tract infections in adults and children in primary care

Evidence suggests that antibiotics are generally not required as first line treatment for acute otitis media. NICE Clinical Knowledge Summaries (CKS) provides the following information for considering whether antibiotics are required:

- **For most children with suspected acute AOM,** advise a no antibiotic prescribing strategy or a back up/delayed antibiotic prescribing strategy. Share self help advice and patient information leaflet. Appendix 1 contains further information.
- **For children younger than 3 months of age with AOM,** have a low threshold for prescribing antibiotics.
- **Offer an immediate antibiotic prescription to:**
    - Children who are systemically very unwell (but who do not require admission).

    - Children at high risk of serious complications because of significant heart, lung, renal, liver, or neuromuscular disease, immunosuppression, or cystic fibrosis, and young children who were born prematurely.
    - Children whose symptoms of AOM have already lasted for 4 days or more and are not improving.
- **Depending on severity, consider offering an immediate antibiotic prescription to:**
    - Children younger than 2 years of age with bilateral AOM.
    - Children with perforation and/or discharge in the ear canal (otorrhoea) associated with AOM

NICE also advises that all patients or carers are given self-care advice and safety netting advice. Sharing a patient information leaflet within the consultation will optimise this patient/carer/prescriber interaction.

Compliance with the antibiotic(s), dose, frequency and duration can be determined using the ***Public Health England (PHE)*** *Management of infection guidance for primary care for consultation and local adaptation.*

Drug	Dose	Duration of Treatment
Amoxicillin	Neonate 7-28 days: 30mg/kg TDS 1 month-1 yr: 125mg TDS 1-5 years: 250mg TDS 5-18 years: 500mg TDS	5 days
Erythromycin (if penicillin allergic)	<2 years 125mg QDS 2-8 years 250mg QDS 8-18 years 250-500mg QDS	5 days

Results

The following tables show the results that should be recorded

	NICE Antibiotic Prescribing Guidance		Total
	Followed	Not Followed	
No antibiotic Prescribed			
Back-up/Delayed Prescription Given			
Immediate Antibiotic Prescribed			
Total number of patients consulting			

Self-care advice given			
Leaflet shared with patient/carer			
Safety netting advice given			

Review of Antibiotic Prescriptions	
Parameter	**Total Number**
1. Patients prescribed an antibiotic	
2. Antibiotic Choice Correct	
3. Dose Correct	
4. Frequency Correct	
5. Course Length Correct	
6. All Parameters of Antibiotic Prescribing Correct (i.e points 2-5 all correct)	
7. Self-help advice given	
8. Patient information leaflet given	

Calculations

1.
Overall compliance with NICE guidance on whether to prescribe an antibiotic =

$$\frac{\text{Total number of NICE Antibiotic Prescribing Guidance Followed}}{\text{Total number of patients in audit}} \times 100$$

(European indicators by ESAC suggest that only 0-20% of patients older than 2 years of age should be prescribed antibiotics for AOM)

2.
Overall compliance to PHE Primary Care guidance on appropriate antibiotic prescribing (i.e of those patients who were prescribed an antibiotic, all parameters of antibiotic prescribing were met for each patient) =

$$\frac{\text{All parameters of antibiotic prescribing correct (Value in row 6 in table above)}}{\text{Total number of patients prescribed an antibiotic (Value in row 1 in table above)}} \times 100$$

(European indicators by ESAC suggest that 80-100% of patients older than 2 years of age who are prescribed antibiotics for AOM should receive the

recommended antibiotics, i.e correct choice of antibiotic, correct dose, correct frequency, correct length of treatment)

3.
Overall compliance with NICE guidance to share self-help and safety netting advice =

$$\frac{\text{No. in which self-help advice and safety netting advice and leaflet shared with patient/carer}}{\text{Total number of patients in audit}} \times 100$$

Actions

This section has been left blank intentionally for the practitioner completing the audit to document any actions required as a result of their findings.

Acknowledgements

This audit was devised by Dr Imran Jawaid with advice from Dr Cliodna McNulty and Leah Jones.

References

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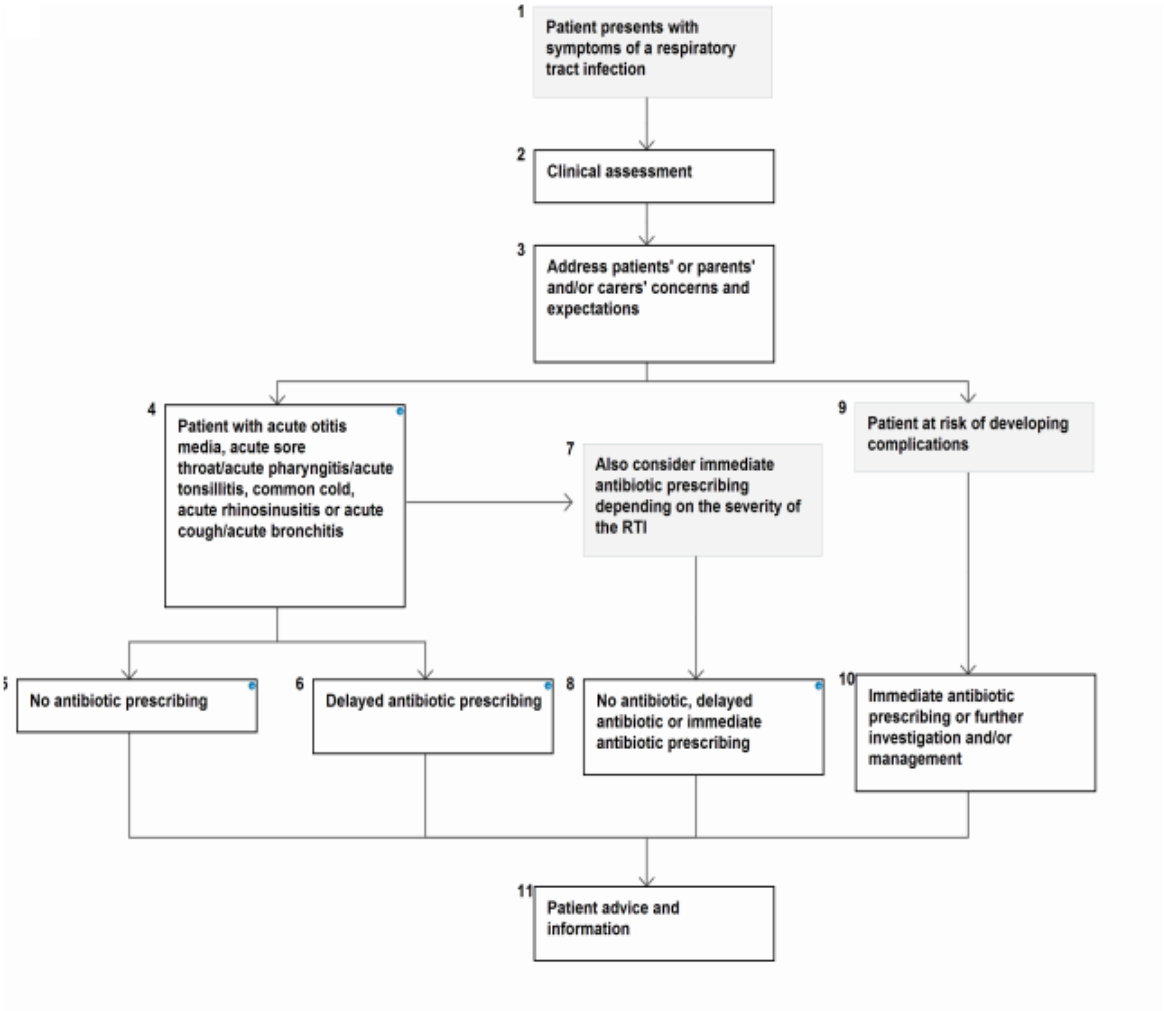
BMJ Qual Saf 2011;20:764e772. doi:10.1136/bmjqs.2010.049049,1,2
Samuel Coenen, Sarah Tonkin-Crine, Theo J M Verheij, Paul Little, Herman Goossens, on behalf of the ESAC Project Group. European Surveillance of Antimicrobial Consumption (ESAC): disease-specific quality indicators for outpatient antibiotic prescribing

Appendix 1

Compliance with the decision to treat a patient with a respiratory tract infection can be determined by using the care pathway present in the ***NICE Guidelines CG69:*** *Respiratory tract infections – antibiotic prescribing: Prescribing of antibiotics for self-limiting respiratory tract infections in adults and children in primary care*



Information provided by CKS, detailing specific advice to give to patients and their parents, depending upon which antibiotic prescribing strategy is adopted.

All antibiotic prescribing strategies:
Inform the person that the average total duration of illness for untreated acute otitis media is 4 days in total

When a no antibiotic prescribing strategy is adopted:

Offer reassurance that antibiotics are not usually needed because they are likely to make little difference to symptoms, may have adverse effects (for example, diarrhoea, vomiting, and rash), and can contribute to antibiotic resistance.

Advise the person to re-consult if the condition worsens or if symptoms are not starting to settle within 4 days of the onset of the illness.

When a delayed antibiotic prescribing strategy is adopted:
A delayed prescription, with instructions, can either be given to the person or their parent/carer, or left at an agreed location (such as the practice reception) to be collected at a later date.

Offer reassurance that antibiotics are not usually needed because they are likely to make little difference to symptoms, may have adverse effects (for example, diarrhoea, vomiting, and rash), and can contribute to antibiotic resistance.

Advise that antibiotics should be started if symptoms are not starting to settle within 4 days of the onset of the illness or if there is a significant worsening of symptoms at any time.
Advise the person to re-consult if symptoms persist despite completing a course of antibiotics or if there is a significant worsening of symptoms at any time.

When an immediate antibiotic prescribing strategy is adopted:
Advise the person to re-consult if symptoms persist despite completing a course of antibiotics or if there is a significant worsening of symptoms at any time.