

Antibiotics for acute laryngitis in adults

NICE has developed the Cochrane Quality and Productivity topics to help the NHS identify practices that could be significantly reduced or stopped completely, releasing cash and/or resources without negatively affecting the quality of NHS care. Each topic has been derived from a Cochrane systematic review that has concluded that the evidence shows that the practice is harmful or ineffective and should not be used, or that there is insufficient evidence to support widespread use of the practice.

Unless otherwise stated, the information is taken with permission from the Cochrane systematic review.

NICE summary of Cochrane review conclusions

The use of antibiotics in acute laryngitis has not been shown objectively to have any significant clinical benefit that can justify this use in clinical practice. Despite an overall paucity of evidence, treating acute laryngitis with conservative measures in the first instance is appropriate because antibiotics are associated with side effects and an increased incidence of antimicrobial resistance, which is costly and harmful to the population as a whole.

Not using antibiotics for acute laryngitis is likely to lead to productivity savings and reduce the risk of antimicrobial resistance without compromising the clinical care of individual patients.

The 'Implications for practice' section of the Cochrane review stated:

'Definitive recommendations cannot be made since evidence is only available from three randomised controlled trials (RCTs). Antibiotics appear to have no benefit in the treatment of acute laryngitis. Erythromycin may reduce voice disturbance at one week and cough at two weeks, measured subjectively, and fusafungine may improve the rates of cured patients at day five (it is unclear how this was measured), however we consider that these outcomes are not relevant in clinical practice. In addition, acute laryngitis requires laryngoscopic findings for a clear diagnosis as hoarseness by itself is not the sole criterion for the assessment of a disease.

Overall, there is no clear benefit for the primary outcome, which is objective assessment of voice quality, but some improvements are seen in subjective measures (i.e. cough, hoarseness of voice) that could be important to patients. However, we consider that these modest benefits from antibiotics may not outweigh their cost, adverse effects or negative consequences for antibiotic resistance patterns. The implications for practice are that prescribing antibiotics should not be done in the first instance as they will not objectively improve symptoms.'

Details of Cochrane review

Cochrane review title

Antibiotics for acute laryngitis in adults

Citation

[Revez L, Cardona AF. Antibiotics for acute laryngitis in adults. Cochrane Database of Systematic Reviews 2015, Issue 5. Art. No.: CD004783. DOI: 10.1002/14651858.CD004783.pub5.](#)

Cochrane Quality and Productivity topics

When the review content was assessed as up to date

16 December 2014

Quality and productivity category

Right care

Relevant codes	OPCS	ICD10	HRG
	N/A for community prescribing	J04.0	N/A for community prescribing

Programme budget:

Infectious diseases

Evidence

Relevance to the NHS

Acute laryngitis is an inflammation of the larynx. The most common symptoms are hoarseness, fever, sore throat, postnasal discharge and difficulty in swallowing. Antibiotics are frequently prescribed by physicians. The review included trials comparing any antibiotic therapy with placebo for acute laryngitis.

Three trials met the study inclusion criteria. In the first trial, 100 participants were randomly selected to receive either phenoxymethylpenicillin (800 mg twice a day for 5 days), or an identical placebo, in a study of acute laryngitis in adults. A tape recording of each patient reading a standardised text was obtained during the first visit, subsequently during re-examination after 1 and 2 weeks, and at follow up after 2 to 6 months. No significant differences were found between the groups. The trial also measured symptoms reported by participants and found no significant differences.

The second trial investigated erythromycin for treating acute laryngitis in 106 adults. The mean objective voice scores measured at the first visit, at re-examination after 1 and 2 weeks, and at follow up after 2–6 months did not significantly differ between control and intervention groups. At 1 week, there were significant beneficial differences in the severity of reported vocal symptoms as judged by the participants. Comparing erythromycin and placebo groups on the rate of persistence of cough at 2 weeks, the risk ratio (RR) was 0.38 (95% confidence interval (CI) 0.15 to 0.97, P value = 0.04) and the number needed to treat for an additional beneficial outcome (NNTB) was 5.87 (95% CI 3.09 to 65.55). For the subjective voice scores at 1 week the RR was 0.64 (95% CI 0.46 to 0.90, P value = 0.034) and the NNTB was 3.76 (95% CI 2.27 to 13.52; P value = 0.01).

A third trial included 145 patients with acute laryngitis symptoms, randomised into 3 treatment groups. Group 1: 7-day course of fusafungine (6 times a day by inhalation); group 2: 7-day course of fusafungine (6 times a day by inhalation) plus clarithromycin (250 mg twice daily for 7 days); group 3: no treatment. Clinical cure rates were measured at days 5 ± 1, 8 ± 1 and 28 ± 2. The authors reported significant differences in the rates of clinical cure at day 5 ± 1 favouring fusafungine (1 trial; 93 participants; RR 1.50, 95% CI 1.02 to 2.20; P value = 0.04) and fusafungine plus clarithromycin (1 trial 97 participants; RR 1.47, 95% CI 1.00 to 2.16; P value = 0.05) when compared to no treatment. However, no significant differences were found at days 8 ± 1 and 28 ± 2. Also, no significant differences were found when comparing fusafungine to fusafungine plus clarithromycin at days 5 ± 1, 8 ± 1 and 28 ± 2.

Antibiotics do not appear to be effective in treating acute laryngitis when assessing objective outcomes. They appear to be beneficial for some subjective outcomes. Erythromycin could

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reduce voice disturbance at 1 week and cough at 2 weeks when measured subjectively. Fusafungine could increase the cure rate at day 5. The included RCTs had important methodological problems and these modest benefits from antibiotics may not outweigh their cost, adverse effects or negative consequences for antibiotic resistance patterns.

The implications for practice are that antibiotics should not be prescribed in the first instance as they will not objectively improve symptoms.

Relevant NICE guidance and products

[Respiratory tract infections – antibiotic prescribing. NICE clinical guideline 69](#) (Published July 2008, reviewed February 2014)

Recommendation 1.3

A no antibiotic prescribing strategy or a delayed antibiotic prescribing strategy should be agreed for patients with the following conditions:

- acute otitis media
- acute sore throat/acute pharyngitis/acute tonsillitis
- common cold
- acute rhinosinusitis
- acute cough/acute bronchitis.

Depending on clinical assessment of severity, patients in the following subgroups can also be considered for an immediate antibiotic prescribing strategy (in addition to a no antibiotic or a delayed antibiotic prescribing strategy):

- bilateral acute otitis media in children younger than 2 years
 - acute otitis media in children with otorrhoea
 - acute sore throat/acute pharyngitis/acute tonsillitis when three or more Centor criteria are present.
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Other accredited guidance and products

[Clinical Knowledge Summary: Sore throat – acute \(July 2015\)](#)

[Clinical Knowledge Summary: Palliative care – cough \(July 2015\)](#)

Potential productivity savings

Estimate of current NHS use

Based on the [2015 Primary Care prescription cost analysis](#), the most prescribed antibacterial drugs in primary care are amoxicillin, phenoxymethypenicillin and flucloxacillin. However, it is not known how many of the prescriptions were for acute laryngitis.

Level of productivity savings anticipated

The unit cost of a packet of (15 caps 250mg amoxicillin is £0.72, 28 caps 250mg flucloxacillin £1.30) and (100ml, 250mg/5ml phenoxymethypenicillin oral solution is £16.02) ([NHS electronic drug tariff accessed 01/08/2016](#)).

Type of saving

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Cash releasing

Any costs needed to achieve the savings

There is not likely to be a cost barrier to change

Other information

Any savings are likely to benefit community prescribing

Potential impact on quality of NHS care

Impact on clinical quality

Clinical quality will be improved due to a lower level of antibiotic resistant infections in the wider population.

Impact on patient safety

Improved patient safety is expected due to a reduced risk of side effects associated with antibiotics, coupled with a reduced risk of antibiotic resistant infections.

Impact on patient and carer experience

Not anticipated to have any significant impact on patient and carer experience, although some may experience the persistence of a hoarse voice and a cough for slightly longer than if erythromycin was given.

Likely ease of implementation

Time taken to implement

Can be achieved in the medium term: 3 months to 1 year

Healthcare sectors affected

Affects one department or team

Stakeholder support

Likely to achieve good buy-in from key influencers

References

[National Institute for Health and Care Excellence \(2014\) Respiratory tract infections – antibiotic prescribing NICE guideline CG69](#)

[Clinical Knowledge Summaries: Sore throat – acute \(July 2015\)](#)

[Clinical Knowledge Summaries: Palliative care – cough \(July 2015\)](#)