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**Category:** Therapeutics

**Study type:** Systematic review and meta-analysis

**Author's declarative title:** Tonsillectomy or adenotonsillectomy reduces the number of sore throats in children however insufficient information is available on the effectiveness in adults

**Citation:** Burton MJ, Glasziou PP, Chong LY, Venekamp RP. Tonsillectomy or adenotonsillectomy versus non-surgical treatment for chronic/recurrent acute tonsillitis. Cochrane Database of Systematic Reviews 2014, Issue 11. Art. No.: CD001802.

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**Context:** Sore throats cost the NHS over £120 million per annum with approximately £60 million for GP consultations and medical therapy. From 2011-12 in England alone<sup>1</sup> secondary care costs included £10 million for bed usage by over 37,000 emergency hospital admissions and over £20 million in elective adult tonsillectomy. Upper respiratory tract infections are the commonest cause of consultation in the United States.<sup>2</sup> The place of tonsillectomy in the management of sore throat remains uncertain. Absolute numbers of tonsillectomy in the UK have fallen in adults and children<sup>2</sup> but a lack of level I evidence<sup>3-5</sup> contributes to on-going UK regional variation in tonsillectomy rates<sup>6</sup>, even where compliance to SIGN guidance<sup>7</sup> approaches 90%.<sup>8</sup>

**Methods:** This is an update of a Cochrane systematic review first published in 1999<sup>4</sup> and previously updated in 2009<sup>3</sup> to assess the effectiveness of adeno-/tonsillectomy in children and adults with chronic/recurrent acute tonsillitis in reducing the episodes of tonsillitis or sore throat. The Cochrane Ear, Nose and Throat Disorders Group Trials Register; the Cochrane Central Register of Controlled Trials (CENTRAL); PubMed; EMBASE; CINAHL; Web of Science; Cambridge Scientific Abstracts; ISRCTN and additional sources were searched for published and unpublished randomised controlled trials. Standard methodological procedures, expected by The Cochrane Collaboration, were used for data collection and analysis.

**Findings:** This review includes seven trials with low to moderate risk of bias: five undertaken in children (987 participants) and two in adults (156 participants). Children who had an adeno-/tonsillectomy had an average of three episodes of sore throats in the first postoperative year, compared to 3.6 episodes in the control group; (difference 0.6, 95% CI -1 to -0.1). In the first year after surgery children undergoing surgery had an average of 18 days of sore throat compared with 23 days in the control group (difference 5.1 days, 95% CI 2.2 to 8.1). In adults there were 3.6 fewer episodes (95% CI 7.9 fewer to 0.70 more) in the group receiving surgery within six months post-surgery. The mean difference for number of days with sore throat in a follow-up period of about six months was 10.6 days fewer in favour of the group receiving surgery (95% CI 5.8 fewer to 15.8 fewer).

**Commentary:** This is a good quality update of a previous systematic review<sup>3,4</sup> which confirms that adeno-/tonsillectomy leads to a reduction in the number of sore throats in children in the

first year after surgery compared to (initial) non-surgical treatment. The review is limited however by both the quantity and quality of data available for analysis and as such there is insufficient information available on the effectiveness of tonsillectomy versus non-surgical treatment in adults to draw a firm conclusion. The quality of the evidence for children is considered to be moderate so that further research is likely to have an important impact on confidence in the results. Quality is affected by the large number of children who are lost to follow-up after the first year of the studies. In addition, some children who are assigned to non-surgical treatment ultimately undergo surgery. The quality of evidence for tonsillectomy in adults is low and is affected by the short duration of follow-up and heterogeneity of studies.

**Implications for practice:** Children who are severely affected by sore throats are most likely to benefit from adeno-/tonsillectomy however any potential benefits of surgery should be carefully weighed against the possible harms. The National Trial of Tonsillectomy In Adults, NATTINA, a UK multi-centre, randomised, controlled trial is currently underway to establish the clinical and cost effectiveness of tonsillectomy versus conservative management in adults with recurrent tonsillitis.

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