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| **Corticosteroids for a sore throat? *J Fam Pract*. 2013;62:372-374.** | | | | |
| **Potential PURL Review Form: Meta-analysis** | | | | |
| **SECTION 1: IDENTIFYING INFORMATION** | | | | |
| **1.** Citation | | Hayward G, Thompson MJ, Perera R, et al. Corticosteroids as standalone or add-on treatment for sore throat. *Cochrane Database Syst Rev*. 2012;(10):CD008268. | | |
| **2.** Hypertext link to PDF of full article | | http://www.ncbi.nlm.nih.gov/pubmed?term=23076943 | | |
| **3.** First date published study available to readers | | October 17, 2012 | | |
| **4.** PubMed ID | | 23076943 | | |
| **5.** Nominated By | | Jim Stevermer | | |
| **6.** Institutional Affiliation of Nominator | | University of Missouri | | |
| **7.** Date Nominated | | November 3, 2012 | | |
| **8.** Identified Through | | InfoPOEMs | | |
| **9.** PURLS Editor Reviewing Nominated Potential PURL | | Kate Rowland | | |
| **10.** Nomination Decision Date | | November 13, 2012 | | |
| **11.** Potential PURL Review Form (PPRF) Type | | Meta-analysis | | |
| **12.** Other comments, materials or discussion | |  | | |
| **13.** Assigned Potential PURL Reviewer | | Nina Rogers | | |
| **14.** Reviewer Affiliation | | University of Chicago | | |
| **15.** Date Review Due | | December 13, 2012 | | |
| **16.** Abstract | | **BACKGROUND:**  Sore throat is a common condition associated with a high rate of antibiotic prescriptions, despite limited evidence for the effectiveness of antibiotics. Corticosteroids may improve symptoms of sore throat by reducing inflammation of the upper respiratory tract.  **OBJECTIVES:**  To assess the clinical benefit and safety of corticosteroids for symptoms of sore throat in adults and children.  **SEARCH METHODS:**  We searched The Cochrane Library, the Cochrane Central Register of Controlled Trials (CENTRAL 2012, Issue 5) which includes the Acute Respiratory Infections (ARI) Group's Specialised Register, the Database of Reviews of Effects and the NHS Health Economics Database, MEDLINE (1966 to November Week 4, 2012) and EMBASE (1974 to June 2012).  **SELECTION CRITERIA:**  We included randomised controlled trials that compared steroids to either placebo or standard care in adults and children (older than three years of age) with sore throat. We excluded studies of hospitalised participants, those with infectious mononucleosis, sore throat following tonsillectomy or intubation, or peritonsillar abscess.  **DATA COLLECTION AND ANALYSIS:**  Two review authors independently reviewed and selected trials from searches, assessed and rated study quality, and extracted relevant data.  **MAIN RESULTS:**  We included eight trials involving 743 participants (369 children and 374 adults). All trials gave antibiotics to both placebo and corticosteroid groups; no trials assessed corticosteroids as standalone treatment for sore throat. In addition to any effect of antibiotics and analgesia, corticosteroids increased the likelihood of complete resolution of pain at 24 hours by more than three times (risk ratio (RR) 3.2, 95% confidence interval (CI) 2.0 to 5.1, P < 0.001, I(2) statistic 44%) and at 48 hours by 1.7 times. Fewer than four people need to be treated to prevent one person continuing to experience pain at 24 hours. Corticosteroids also reduced the mean time to onset of pain relief and the mean time to complete resolution of pain by 6 and 14 hours, respectively, although significant heterogeneity was present. At 24 hours, pain (assessed by visual analogue scores) was reduced by an additional 14% by corticosteroids. No difference in rates of recurrence, relapse or adverse events were reported for participants taking corticosteroids compared to placebo, although reporting of adverse events was poor.  **AUTHORS' CONCLUSIONS:**  Oral or intramuscular corticosteroids, in addition to antibiotics, increase the likelihood of both resolution and improvement of pain in participants with sore throat. Further trials assessing corticosteroids in the absence of antibiotics and in children are warranted. | | |
| **sECTION 2: CRITICAL APPRAISAL OF VALIDITY** | | | | |
| **1.** What types of studies are included in this review? | RCT | | | |
| **2.** What is the key question addressed by this review? Summarize the main conclusions and any strengths or weaknesses. | Do systemic corticosteroids improve the pain of sore throat? Corticosteroids significantly relatively increased the likelihood of pain resolution when used with antibiotics and analgesia. This effect was noted mainly in severe or exudative sore throat. Weaknesses include the relative comparison and heterogeneity among the studies. | | | |
| **3.** Study addresses an appropriate and clearly focused question - ***select one*** | Well covered | | | |
| **4.** A description of the methodology used is included. | Well covered | | | |
| **5.** The literature search is sufficiently rigorous to identify all the relevant studies. | Adequately addressed | | | |
| **6.** Study quality is assessed and taken into account. |  | | | |
| **7.** There are enough similarities between selected studies to make combining them reasonable. | Poorly addressed  Comments: The authors state the I2 statistic for heterogeneity was determined before a fixed-effect or random-effects analysis was done. | | | |
| **8.** Are patient-oriented outcomes included? If yes, what are they? | Pain | | | |
| **9.** Are adverse effects addressed? If so, how would they affect recommendations? | Barely; only one trial (N=125) reported adverse events. There could be a worsening of the infection by steroids that is not observed without these data. | | | |
| **10.** Is funding a potential source of bias? If yes, what measures (if any) were taken to ensure scientific integrity? | No. | | | |
| **11.** To which patients might the findings apply? Include patients in the meta-analysis and other patients to whom the findings may be generalized. | The findings are applicable to patients from school age and older with severe or exudative sore throat. | | | |
| **12.** In what care settings might the findings apply, or not apply? | These findings would apply to the primary care setting as well as to urgent care. | | | |
| **13.** To which clinicians or policy makers might the findings be relevant? | Primary and urgent care physicians and their administrators. | | | |
| **SECTION 3: REVIEW OF SECONDARY LITERATURE** | | | | |
| **1.** DynaMed excerpts | | |  | |
| **2.** DynaMed citation/access date | | | National Guideline Clearinghouse. Steroids for pharyngitis. In: DynaMed [database online]. Available at: www.DynamicMedical.com. Last updated July 4, 2011. Accessed December 8, 2012. | |
| **3.** Bottom line recommendation or summary of evidence from DynaMed  (1-2 sentences) | | | Steroids provide symptomatic relief of sore throat. | |
| **4.** UpToDate excerpts | | |  | |
| **5.** UpToDate citation/access date | | | Stead W. Symptomatic treatment of acute pharyngitis in adults.In: Basow DS, ed. UpToDate [database online]. Waltham, Mass: UpToDate; 2012. Available at: http://www.uptodate.com. Last updated October 22, 2012. Accessed December 8, 2012.  Drutz JE. Symptomatic relief of sore throat in children and adolescents. In: Basow DS, ed. UpToDate [database online]. Waltham, Mass: UpToDate; 2012. Available at: http://www.uptodate.com. Last updated July 6, 2012. Accessed December 8, 2012. | |
| **6.** Bottom line recommendation or summary of evidence from UpToDate (1-2 sentences) | | | They suggest not prescribing glucocorticoids for routine acute sore throat. | |
| **7.** PEPID PCP excerpts [www.pepidonline.com](http://www.pepidonline.com) username: fpinauthor pw: pepidpcp | | | There is no mention of steroids and sore throat. It is not an indication for corticosteroids. | |
| **8.** PEPID citation/access data | | | Sponseller B. Pharyngitis. In: PEPID [database online]. Available at: http://www.pepidonline.com. Last updated November 2011. Accessed December 8, 2012. | |
| **9.** PEPID content updating | | | 1. Do you recommend that PEPID get updated on this topic?  2. Is there an EBM Inquiry (HelpDesk Answers and Clinical Inquiries) as indicated by the EB icon () that should be updated on the basis of the review?  Yes, there is important evidence or recommendations that are missing  If yes, which Evidence-Based Inquiry (HelpDesk Answer or Clinical Inquiry), Title(s):  There is no mention of steroids and sore throat. Perhaps an evidecence-based query should be written about it. | |
| **10.** Other excerpts (USPSTF; other guidelines; etc.) | | | The American Academy of Otolaryngology has broad information for patients on their website without mention of steroids. | |
| **SECTION 4: CONCLUSIONS** | | | | |
| **1.** **Validity:** How well does the study minimize sources of internal bias and maximize internal validity? Give one number on a scale of 1 to 7 (1=extremely well; 4=neutral; 7=extremely poorly) | | | | 5 |
| **2.** If 4.1 was coded as 4, 5, 6, or 7, please describe the potential bias and how it could affect the study results. Specifically, what is the likely direction in which potential sources of internal bias might affect the results? | | | | PubMed was not used to search for studies and this could limit the applicability to American patients if studies from the United States were not included. Heterogeneity was calculated before a fixed-effect or random-effects model was chosen. This could artificially compare studies that are truly not comparable. |
| **3. Relevance:** Are the results of this study generalizable to and relevant to the health care needs of patients cared for by “full scope” family physicians? Give one number on a scale of 1 to 7 (1=extremely well; 4=neutral; 7=extremely poorly) | | | | 1 |
| **4.** If 4.3 was coded as 4, 5, 6, or 7,please provide an explanation. | | | |  |
| **5. Practice-changing potential:** If the findings of the study are both valid and relevant, does the practice that would be based on these findings represent a change from current practice? Give one number on a scale of 1 to 7 (1=definitely a change from current practice; 4=uncertain; 7=definitely not a change from current practice) | | | | 2 |
| **6.** If 4.5 was coded as 1, 2, 3, or 4, please describe the potential new practice recommendation. Please be specific about what should be done, the target patient population and the expected benefit. | | | | Given the desire to not medicalize a viral URI and sore throat and the current general recommendation to not prescribe steroids, prescribing steroids for a sore throat—even when bacterial and exudative—would be a practice change for pain treatment. |
| 1. **Applicability to a Family Medical Care Setting:**   Is the change in practice recommendation something that could be done in a medical care setting by a family physician (office, hospital, nursing home, etc), such as a prescribing a medication, vitamin or herbal remedy; performing or ordering a diagnostic test; performing or referring for a procedure; advising, educating or counseling a patient; or creating a system for implementing an intervention? Give one number on a scale of 1 to 7 (1=definitely could be done in a medical care setting; 4=uncertain; 7=definitely could not be done in a medical care setting) | | | | 1 |
| **8.** If you coded 4.7 as a 4, 5, 6 or 7, please explain. | | | |  |
| **9. Immediacy of Implementation:** Are there major barriers to immediate implementation? Would the cost or the potential for reimbursement prohibit implementation in most family medicine practices? Are there regulatory issues that prohibit implementation? Is the service, device, drug or other essentials available on the market?Give one number on a scale of 1 to 7 (1=definitely could be immediately applied; 4=uncertain; 7=definitely could not be immediately applied) | | | | 1 |
| **10.** If you coded 4.9 as 4, 5, 6, or 7, please explain why. | | | |  |
| **11. Clinical meaningful outcomes or patient-oriented outcomes:** Are the outcomes measured in the study clinically meaningful or patient oriented? Give one number on a scale of 1 to 7 (1=definitely clinically meaningful or patient oriented; 4=uncertain; 7=definitely not clinically meaningful or patient oriented) | | | | 1 |
| **12.** If you coded 4.11 as a 4, 5, 6, or 7, please explain why. | | | |  |
| **13.** In your opinion, is this a Pending PURL? Give one number on a scale of 1 to 7 (1=definitely a Pending PURL; 4=uncertain; 7=definitely not a Pending PURL)  Criteria for a Pending PURL:   * Valid: Strong internal scientific validity; the findings appears to be true. * Relevant: Relevant to the practice of family medicine * Practice changing: There is a specific identifiable new practice recommendation that is applicable to what family physicians do in medical care settings and seems different than current practice. * Applicability in medical setting: * Immediacy of implementation | | | | 5 |
| **14.** Comments on your response in 4.13 | | | | I had validity concerns and I was concerned about the overuse potential after a recommendation of steroids for sore throat. |