

## **Third Molar Removal: Summary of a Systematic Review**

Original article: Mettes, TG; Nienhuijs, MEL; van der Sanden, WJM; Verdonshot, EH; Plasschaert, AJM. Interventions for treating asymptomatic impacted wisdom teeth in adolescents and adults. *Cochrane Database Syst Rev.* 2005 Apr 18;(2):CD003879.

*The Cochrane Review by Mettes et al (2005) was conducted to evaluate the effect of prophylactic removal of asymptomatic impacted third molars in adolescents and adults compared with the retention of these teeth. There were two conclusions presented by this review: 1) no evidence was found to support or refute routine prophylactic removal of asymptomatic impacted wisdom teeth (third molars) in adults, and 2) there is some reliable evidence that suggests that the prophylactic removal of asymptomatic impacted wisdom teeth in adolescents neither reduces nor prevents late incisor crowding. The first conclusion is based on no evidence, as there were no studies of adults that met the criteria for inclusion. The second conclusion is based on two randomized or controlled clinical trials (RCT), one having a five year follow-up and the other having at least three years of follow-up.*

*This review was designed to analyze multiple outcomes, including pericoronitis, caries, cyst, tumors, root resorption, dimensional changes in the dental arch (crowding), paraesthesia of the tongue and lip, infection of bone and/or surrounding tissues, pain and numbness, days off work, difficulty in eating and speaking, development of periodontal pockets distally to the second molars, and cost issues of treatment. However, the two studies that met the inclusion criteria for the review addressed only the outcome of crowding. Thus, no conclusion can be made regarding the effect of prophylactic removal of impacted third molars on the other outcomes.*

*Although review included only RCTs, there are many additional studies that address the outcomes of prophylactic removal of impacted asymptomatic third molars. Unfortunately, the evidence available in these studies was not included in this review. As stated in the review “in the absence of better-designed randomized or controlled clinical trials, observational studies (focused on specific outcomes) could provide the best available evidence to support or refute the effectiveness of the removal of asymptomatic third molars.”*

*Dentists and oral and maxillofacial surgeons can use information provided in this review, in combination with all of the other available clinical evidence on the various outcomes of prophylactic extraction of asymptomatic impacted third molars, in their decision making process. It is prudent that this process also include the clinical expertise of the dentist and the preferences of the individual patient.*

## **Additional information on the article:**

**What are the practice implications of the review?** In the absence of more data from randomized controlled trials, dental clinicians and oral and maxillofacial surgeons could improve their decision-making by using contemporary evidence and clinical expertise contained in well-designed national clinical practice guidelines. Clinicians should make it clear to adult patients with symptomatic third molars that there is no evidence one way or another about the benefits of otherwise removing these molars. The same communication strategy to adolescents and their parents regarding the impact of surgical removal on the late lower incisor crowding should be advocated.

**What are the research implications of the review?** Long-term and well-designed prospective studies of asymptomatic impacted third molars are needed. Further research in decision analysis models is advocated, and patient preferences and views should be an essential part of this research.

**What is the objective of the publication?** To evaluate the effect of prophylactic removal of asymptomatic impacted wisdom teeth in adolescents and adults compared with the retention of these teeth.

**What is the type of intervention analyzed in the report?** Treatment.

**What is the specific intervention?** Prophylactic removal of asymptomatic impacted wisdom teeth.

**What is the population?** Adolescents and adults.

**What is the comparison?** Retention of asymptomatic impacted wisdom teeth.

**What outcomes are measured?** Pericoronitis, caries, cyst, tumors, root resorption, dimensional changes in the dental arch (crowding), paraesthesia of the tongue and lip, infection of bone and/or surrounding tissues, pain and numbness, days off work, difficulty in eating and speaking, development of periodontal pockets distally to the second molars, cost issues of treatment.

**What types of studies are included in the review?** Randomized or controlled clinical trials comparing the effect of prophylactic removal of asymptomatic impacted wisdom teeth with no treatment.

**What literature databases were searched?** Cochrane Oral Health Group Trials Register, the Cochrane Central Register of Controlled Trials, MEDLINE, PubMed, EMBASE. Key journals were hand searched.

**How many studies were identified?** Three.

**What were the criteria used to determine the validity (or quality) of studies?** Only randomized or controlled clinical trials comparing the effect of prophylactic removal of asymptomatic impacted wisdom teeth with no treatment were included. Quality criteria included allocation concealment (concealed method of patient selection for intervention versus control group), treatment blinded to outcome assessor, and completeness of follow-up.

**How were decisions to include or exclude studies made?** Two authors independently and in a non-blinded fashion, assessed the titles, key words and abstracts of all reports identified by the search strategy as being of potential relevance to the review. Articles on which the authors disagree were read in full and a decision to include or exclude was made upon discussion.

**How many studies were included?** Two randomized or controlled clinical trials were included.

**What data was extracted from primary studies?** Relevant data were extracted from the included studies independently by three authors. The extracted data included the year of publication, date and duration of the study, age of the participants, interventions and outcomes at baseline.

**What are the results of the review?** Only three trials were identified that meet the inclusion criteria. Two were completed RCTs, on one was an ongoing RCT. Data from the ongoing RCT was not included in this systematic review, but will be included once the data is published.

**What are the authors' conclusions?** No evidence was found to support or refute routine prophylactic removal of asymptomatic impacted wisdom teeth in adults, and some evidence suggests that removal in adolescents neither reduces or prevents late incisor crowding.

**Where was it published?** The Cochrane Library.

**What type of publication is it?** Systematic review.

**Link to Abstract:**

[http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list\\_uids=15846686](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=15846686)