Orthodontic Treatment for the Management of Pain or Impacted Teeth in Patients with Malocclusion: Clinical Effectiveness and Guidelines

Acknowledgments:

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About CADTH: CADTH is an independent, not-for-profit organization responsible for providing Canada’s health care decision-makers with objective evidence to help make informed decisions about the optimal use of drugs, medical devices, diagnostics, and procedures in our health care system.
Research Questions

1. What is the clinical effectiveness of orthodontic treatment for the management of pain in patients with malocclusion?

2. What is the clinical effectiveness of orthodontic treatment for impacted teeth associated with malocclusion?

3. What are the evidence-based guidelines regarding the use of orthodontic treatments for the management of pain or impacted teeth in patients with malocclusion?

Key Findings

Three non-randomized studies were identified regarding the clinical effectiveness of orthodontic treatment for the management of pain or impacted teeth in patients with malocclusion.

Methods

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2017, Issue 5), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2012 and May 13, 2017. Internet links were provided, where available.

Selection Criteria

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

Table 1: Selection Criteria

| Population | Q1 & Q3: Patients (any age) with pain associated with malocclusion, with or without impacted teeth  
Q2 & Q3: Patients (any age) with malocclusion and impacted teeth  
Subgroups of interest:  
- Children and adolescents < 18 years old  
- Adults ≥ 18 years old  
- First Nations and Inuit, Indigenous populations, Aboriginal population, American Indian/Alaska Native |
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<td>Intervention</td>
<td>Orthodontic treatment (e.g., braces, appliances) with or without oral surgery</td>
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| Comparator | Q1 & Q2: No orthodontic treatment; orthodontic treatments compared with each other; oral surgery alone; tooth extraction  
Q3: No comparator |
| Outcomes | Q1 & Q2: Clinical effectiveness (e.g., pain relief, resolution of impacted teeth)  
Q3: Evidence-based guidelines |
| Study Designs | Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, evidence-based guidelines |
Results

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, and evidence-based guidelines.

Three non-randomized studies were identified regarding the clinical effectiveness of orthodontic treatment for the management of pain or impacted teeth in patients with malocclusion. No relevant health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, or evidence-based guidelines were identified.

Additional references of potential interest are provided in the appendix.

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-Analyses

No literature identified.

Randomized Controlled Trials

No literature identified.

Non-Randomized Studies


Guidelines and Recommendations

No literature identified.
Appendix — Further Information

Non-Randomized Studies

Unclear Outcomes


Review Articles


Additional References