Orthodontic Treatment and Psychological Well-being: Clinical Effectiveness – An Update
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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.

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Questions or requests for information about this report can be directed to requests@cadth.ca
Research Questions
1. What is the clinical effectiveness of orthodontic treatment to improve psychological well-being and increase self-esteem?
2. What is the effectiveness of orthodontic treatment to prevent suicide in patients with malocclusion?
3. What are the evidence-based guidelines for the use of orthodontic treatment to improve psychological well-being and increase self-esteem?

Key Findings
One overview of reviews, four systematic reviews (two with meta-analyses), one randomized controlled trial, and fifteen non-randomized studies were identified regarding the clinical effectiveness of orthodontic treatment to improve psychological well-being and increase self-esteem.

Methods
This report makes use of a literature search developed for a previous CADTH report. The original literature search was conducted in January 2017 on key resources including PubMed, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. The search strategy was comprised of both controlled vocabulary, such as the National Library of Medicine’s MeSH (Medical Subject Headings), and keywords. The main search concepts were orthodontics and psychological well-being/suicide prevention. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The initial searches were also limited to English-language documents published between January 1, 2017 and November 13, 2019. 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

<table>
<thead>
<tr>
<th>Population</th>
<th>Children (&lt;18 years old) and adults (18+)</th>
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<tbody>
<tr>
<td>Subgroup of interest:</td>
<td>First Nations and Inuit, Indigenous, Aboriginal populations</td>
</tr>
<tr>
<td>Intervention</td>
<td>Orthodontic treatment</td>
</tr>
<tr>
<td>Comparator</td>
<td>No treatment</td>
</tr>
</tbody>
</table>
Outcomes | Changes in psychological well-being and self-esteem, quality of life, suicide prevention, guidelines and recommendations  
Study Designs | Health technology assessments, systematic reviews, randomized controlled trials, non-randomized studies, and 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.

One overview of reviews\(^1\), four systematic reviews (two with meta-analyses)\(^2-5\), one randomized controlled trial\(^6\), and fifteen non-randomized studies\(^7-21\) were identified regarding the clinical effectiveness of orthodontic treatment to improve psychological well-being and increase self-esteem. No relevant literature was identified regarding the effectiveness of orthodontic treatment to prevent suicide in patients with malocclusion. No evidence-based guidelines were identified regarding the use of orthodontic treatment to improve psychological well-being and increase self-esteem.

Additional references of potential interest are provided in the appendix.

**Health Technology Assessments**

No literature identified.

**Overview of Reviews**

   PubMed: PM31147683

**Systematic Reviews and Meta-analyses**

*Pediatric Population and Non-Surgical Treatment*

   PubMed: PM30805125

   PubMed: PM28364887
Pediatric Population and Surgical Treatment


Adult Population and Surgical Treatment


Randomized Controlled Trials

Pediatric Population and Non-Surgical Treatment


Non-Randomized Studies

Pediatric Population and Non-Surgical Treatment


Adult Population and Non-Surgical Treatment


Adult Population and Surgical Treatment


All Age Groups and Non-Surgical Treatment


*Age Group Unclear and Surgical Treatment*


*Guidelines and Recommendations*

No literature identified.
Appendix — Further Information

Previous CADTH Reports


Health Technology Assessments – Alternative Comparator


Systematic Reviews – Alternative Comparator


Randomized Controlled Trials – Alternative Comparator


Non-Randomized Studies

No Comparator

PubMed: PM30923697

PubMed: PM31490437

PubMed: PM29792834

PubMed: PM29983816

PubMed: PM29426739

PubMed: PM28853165

PubMed: PM29090006

PubMed: PM28969272

PubMed: PM28684072
Alternative Comparator


**Review Articles**