

INPLASY202530019

doi: 10.37766/inplasy2025.3.0019

Received: 5 March 2025

Published: 5 March 2025

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ADMINISTRATIVE INFORMATION

Support - No financial support.

Review Stage at time of this submission - Data extraction.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202530019

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 5 March 2025 and was last updated on 5 March 2025.

INTRODUCTION

Review question / Objective What are the potential risk factors for a recurrence after receiving orthodontic treatment?

Condition being studied This systematic review aimed to determine the risk factors for recurrence in orthodontics.

METHODS

Search strategy The databases chosen to carry out our bibliographic search were MEDLINE, MEDLINE IN PROCESS, CENTRAL, EMBASE and COCHRANE LIBRARY. MEDLINE, MEDLINE IN PROCESS, CENTRAL, EMBASE and COCHRANE LIBRARY.

Participant or population Patients who received orthodontic treatment.

Intervention Literature search to identify potential risk factors for recurrence.

Comparator Control group.

Study designs to be included Retrospective study, cohort study, case-control study, randomized controlled trials (RCT).

Eligibility criteria Inclusion criteria
Articles meeting the following criteria were included:

- Studies addressing risk factors for corrective orthodontic recurrence.
- Articles discussing the recurrence of disorders in transverse, vertical and anteroposterior directions, as well as the different skeletal classes in orthodontics.
- Retrospective, cohort and case-control studies.
- Articles published between 2014 and 2024.

Exclusion criteria

- Articles judged to be case reports, expert reports, letters, commentaries, editorials.

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- Articles that do not meet the objectives of our work based on a reading of the title, abstract and critical reading of the full text.
 - Articles in languages other than French and English.
 - Articles discussing recurrence following orthopedic or orthosurgical treatment.
 - Articles examining external factors influencing orthodontic recurrence, such as periodontal issues.

Information sources A comprehensive search for publications in electronic databases such as PubMed, Medline, Embase, Cochrane, Google scholar, Scopus and Web of science was conducted in order to answer our research question. 15 articles were selected, and their level of methodological quality was appraised using the STROBE quality assessment tool.

Main outcome(s) Identification of potential risk factors.

Quality assessment / Risk of bias analysis These articles were critically evaluated in accordance with the guidelines of STROBE (Strengthening the Reporting of Observational studies in Epidemiology).

Strategy of data synthesis The search strategy resulted in the collection of 2493 articles, duplicates have been removed and filters were used (date, type of article), the remaining articles were then left at the number of 1778, then reviewed the titles and abstracts of potentially relevant studies to exclude off-topic articles that did not meet the inclusion criteria. In cases of doubt, studies were included, and full texts were assessed for eligibility.

Subgroup analysis Not done.

Sensitivity analysis Not done.

Language restriction English.

Country(ies) involved Morocco.

Keywords Risk Factors; Recurrences; Relapse; Orthodontics, corrective; Malocclusion.

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