

INPLASY

Fracture resistance of direct versus indirect restorations on posterior teeth: A systematic review and meta-analysis

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Corresponding author:

Carol Moussa

carolwm01@gmail.com

Author Affiliation:

Université de Tours.

Moussa, C; Savard, G; Rochefort, G; Renaud, M; Denis, F; H. Daou, M.

ADMINISTRATIVE INFORMATION

Support - Université de Tours / personal.

Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 25 April 2024 and was last updated on 25 April 2024.

INTRODUCTION

Review question / Objective The aim of this systematic review and meta-analysis was to compare static compression forces between direct composite resin restorations and indirect restorations for posterior teeth.

Condition being studied Fracture resistance of direct composite resin restorations, indirect composite resin restorations, indirect ceramic restorations.

METHODS

Participant or population All studies comparing mechanical properties of direct versus indirect restorations of posterior teeth were included.

Intervention Inlay or Onlay preparations and restorations, then compressive force fracture resistance measurements.

Comparator Fracture resistance of direct vs. indirect restorations + with vs without cusp reduction (inlay vs. onlay) in each group with vs without cusp reduction (inlay vs. onlay) in each group.

Study designs to be included Systematic review and meta-analysis.

Eligibility criteria All studies comparing mechanical properties of direct versus indirect restorations of posterior teeth were included.

Information sources Databases MEDLINE, CENTRAL, and EMBASE.

Main outcome(s) The choice between direct and indirect restoration approaches may not significantly impact fracture resistance outcomes.

Quality assessment / Risk of bias analysis

Randomized clinical studies were assessed for a risk of bias using the Cochrane risk of bias tool (ROB2 tool).

Strategy of data synthesis A software program Review manager v5.4.1 (Cochrane Collaboration) was used to estimate the odds ratio (OR) with 95% confidence intervals (CI).

Subgroup analysis With vs without cusp reduction (inlay vs. onlay) in each group.

Sensitivity analysis Not applicable.

Country(ies) involved France; Lebanon.

Keywords Fracture resistance; direct restoration; indirect restoration; posterior teeth.

Contributions of each author

Author 1 - Carol Moussa.

Author 2 - Guillaume Savard.

Author 3 - Gael Rochefort.

Author 4 - Matthieu Renaud.

Author 5 - Frederic Denis.

Author 6 - Maha H. Daou.