

INPLASY

Effect of the Implantoplasty Techniques on the Fracture Resistance of Dental Implants. Systematic Review and Meta-Analysis

INPLASY202460018

doi: 10.37766/inplasy2024.6.0018

Received: 06 June 2024

Published: 06 June 2024

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - The review has not yet started.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202460018

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 06 June 2024 and was last updated on 06 June 2024.

INTRODUCTION

Review question / Objective To analyze and compare the effect of diamond drill, tungsten carbide drill and ultrasound tips for implantoplasty procedures on the fracture resistance of dental implants affected by periimplant disease.

Condition being studied The impact of the implantoplasty technique on the fracture resistance on the dental implant.

METHODS

Participant or population Dental implants.

Intervention Implantoplasty procedures.

Comparator Implantoplasty techniques with diamond drills, tungsten drills y AIR SCALER.

Study designs to be included Experimental trials.

Eligibility criteria In all the implants the selected articles will simulate a bone loss of half their length and will be subjected to one of the implantoplasty techniques and then they will be subjected or not to the loading cyclic test and to study the fracture resistance they use a universal servo hydraulic mechanical testing machine and the implant with a vertical angle of 30°. Studies will not be restricted by language or year of publication. The exclusion criteria will be as follows: systematic literature reviews, prospective and retrospective randomized clinical trials, clinical cases, and editorials.

Information sources PubMed, Scopus, Cochrane, and Web of Sciences.

Main outcome(s) Fracture resistance of dental implants exposed to implantoplasty techniques after universal servo hydraulic mechanical testing machine application (MPa).

Quality assessment / Risk of bias analysis The Current Research Information System (CRIS) scale will be used to assess the methodological quality of the selected in vitro studies, Publication bias will be studied using the Trim-and-fill method of adjusting the asymmetry of the funnel plot.

Strategy of data synthesis The meta-analysis will be carried out using the random effects model and inverse variance method.

Subgroup analysis None.

Sensitivity analysis Sensitivity analysis will be performed through the One Study Remove.

Country(ies) involved Spain.

Keywords Implantoplasty periimplant disease; dental implants; fracture resistance; failure strength.

Contributions of each author

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