

# INPLASY

## The relationship between proximal contact loss and peri-implant health status: a Systematic Review (and Meta-analysis)

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### ADMINISTRATIVE INFORMATION

**Support** - University of Washington School of Dentistry.

**Review Stage at time of this submission** - Data extraction.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY202430029

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 08 March 2024 and was last updated on 08 March 2024.

### INTRODUCTION

**Review question / Objective** This study aims to investigate the impacts of proximal contact loss on peri-implant health status, in terms of bleeding on probing, probing depth, overall implant survival, and the presence of other complications.

**Rationale** Previous literature have shown that proximal contact loss (PCL) may have negative impact on periodontal health. However, the role of PCL on peri-implant tissue remains unclear.

**Condition being studied** Implant-supported prosthesis with proximal contact loss and the effects on peri-implant health.

### METHODS

**Search strategy** – Information sources: PubMed, EMBASE, Web of Science, Covidence

– Selection process: Two independent reviewers will select the studies and the other author will confirm the selection.

– Data collection process: The data of selected studies will be independently extracted by two reviewers (examiner 1 and 2). Extracted data will be confirmed by the third examiner.

– Data items: (1) Author(s); (2) Year of publication; (3) Study design; (4) Number of involved subjects, implants, restorations, and contact points; (5) Follow-up length; (6) Overall PCL prevalence; (7) PCL prevalence in the upper jaw and the lower jaw; (8) PCL prevalence in single crowns (SCs); (12) PCL prevalence in FPDs; (9) probing depth at the sites with PCL; (10) % of bleeding on probing at the sites with PCL; (11) probing depth at the sites without PCL; (10) % of bleeding on probing at the sites without PCL; (13) implant survival rate of the implants with PCL; (14) implant survival rate of the implants with PCL; (15) The presence of other implant complications.

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**Participant or population** Patients who have dental implants.

**Intervention** Implant-supported prosthesis with proximal contact loss.

**Comparator** Implant-supported prosthesis without proximal contact loss.

**Study designs to be included** Randomized and nonrandomized prospective or retrospective human case-control or cohort comparative studies.

**Eligibility criteria** The studies should be published in English. Studies must have  $\geq 5$  participants. The study should report quantitative value of peri-implant parameters, including probing depth and bleeding on probing. Exclusion criteria: In vitro studies, case reports, animal studies, narrative review, unpublished data, communications, or expert opinions will be excluded.

**Information sources** PubMed, EMBASE, Web of Science, Covidence.

**Main outcome(s)** Probing depth around dental implants.

**Additional outcome(s)** Implant survival, bleeding on probing, and the presence of other complications.

**Data management** EndNote will be used to manage potential and selected articles. Extracted data will be managed in Excel.

**Quality assessment / Risk of bias analysis** Data heterogeneity and publication bias will be assessed.

**Strategy of data synthesis** To be discussed with statistician.

**Subgroup analysis** Subgroup analysis will be performed by comparing the groups: no proximal contact loss and proximal contact loss, and anterior implants and posterior implants.

**Sensitivity analysis** Data will be extracted from eligible studies based on protocol parameters. Sensitivity analysis will then be performed for peri-implant health status by methods of outcome measurement – probing depth, bleeding on probing, and overall implant survival.

**Language restriction** Studies must be in English.

**Country(ies) involved** United States of America.

**Keywords** Dental implants; proximal contact loss; peri-implant health status; bleeding on probing; probing depth; implant survival.

#### **Contributions of each author**

Author 1 - Nelly Badr - First examiner. Paper recruitment, data collection and risk of bias assessment.

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Author 2 - Yung-Ting (Lizzy) Hsu - Third examiner in case there is any disagreement between examiner 1 and 2. Project conduction, data interpretation and publish.

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