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INPLASY

Dental implants surrounded by transferred cutaneous tissues after microvascular jaw reconstruction: a scoping review of clinical and biological outcomes and management strategies

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ADMINISTRATIVE INFORMATION

Support - FAPERJ.

Review Stage at time of this submission - Preliminary searches.

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 2 September 2026 and was last updated on 2 September 2026.

INTRODUCTION

Review question / Objective The primary review question was: What is the extent and nature of the available evidence concerning dental implants surrounded totally or partially by transferred cutaneous tissues following microvascular jaw reconstruction? Secondary questions examined: (1) the clinical and methodological characteristics of the available studies; (2) the clinical, biological, histological, peri-implant, prosthetic, and patient-reported outcomes that had been investigated; (3) the complications and management strategies reported for the cutaneous peri-implant interface; and (4) the methodological limitations and knowledge gaps within the existing evidence.

Background Following microvascular jaw reconstruction, dental implants may emerge through transferred cutaneous tissue rather than native oral mucosa. However, the clinical and biological behavior of this tissue at the peri-implant interface remains uncertain.

Rationale To map the evidence, outcomes, complications, and management strategies for dental implants surrounded wholly or partly by transferred cutaneous tissues.

METHODS

Strategy of data synthesis The evidence was synthesized descriptively through structured tables, numerical summaries, and narrative mapping. Studies and findings were organized by study design, reconstructive and peri-implant tissue characteristics, outcome domain, follow-up, and management strategy. Descriptive measures were reported when denominators were sufficiently clear, while differences in outcome definitions and units of analysis were explicitly described. Owing to clinical and methodological heterogeneity, no meta-analysis or certainty-of-evidence assessment was performed. Evidence gaps were mapped according to population, reconstruction and interface characteristics, outcomes, follow-up, and study design.

Eligibility criteria Eligibility was defined using the Population-Concept-Context framework12. Primary human studies evaluating dental implants emerging through, or surrounded totally or partially by, transferred cutaneous tissues after microvascular maxillary or mandibular reconstruction were eligible. Transferred cutaneous tissues included both vascularized skin paddles incorporated into the reconstructive flap and secondary free skin grafts placed around the peri-implant interface. Studies were considered regardless of flap donor site, reconstructive indication, clinical setting, follow-up duration, publication date, or language. All relevant clinical designs, including observational studies, case series, case reports, technical reports containing original clinical data, and histological or translational investigations, were eligible. Studies involving mixed populations or different peri-implant soft-tissue interfaces were included only when the findings related to transferred cutaneous tissues could be identified separately.

Source of evidence screening and selection Two reviewers (V.M. and T.R.C.) independently performed the literature search. A comprehensive literature search was conducted from database inception through July 20, 2026, in PubMed/MEDLINE, Embase, Scopus, Web of Science, and the Cochrane Central Register of Controlled Trials (CENTRAL). Grey-literature searching included ProQuest Dissertations and Theses. The reference lists of all included reports and relevant reviews were screened, and forward citation tracking was conducted in Scopus and Google Scholar to identify additional eligible records. Inter-reviewer agreement was assessed using Cohen's kappa (κ). Disagreements were resolved by consensus or, when necessary, by consultation with a third reviewer (R.S.L.).

Data management All retrieved records were exported to EndNote 21 (Clarivate, Philadelphia, PA, USA), where duplicates were identified and removed, and subsequently imported into Rayyan (Rayyan Systems, Inc., Cambridge, MA, USA) for study screening. Before formal screening, the eligibility criteria were pilot-tested on a sample of records and refined only when clarification was required, without altering the conceptual scope of the review. Two reviewers (V.M. and T.R.C.) independently screened titles and abstracts. Potentially eligible reports then underwent independent full-text assessment by the same reviewers. Disagreements were resolved through discussion and, when consensus could not be reached, by consultation with a third reviewer (R.S.L.).

Language restriction No language restrictions.

Country(ies) involved Brazil.

Keywords Dental implants; Free tissue flaps; Skin transplantation; Peri-implantitis.

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