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The role of primary stability for successful immediate loading of dental implants. A literature review.

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Abstract

OBJECTIVES: To assess the role of primary stability for successful immediate loading (IL) of dental implants.

DATA: Original articles studying the role of primary stability for successful immediate loading of dental implants were included. The reference lists of potentially relevant review articles were also sought.

SOURCES: The MEDLINE-PubMed databases were searched for appropriate articles addressing the objectives of the present study. Databases were searched from 1979 up to and including April 2010. The search was performed using a variety of keywords in different combinations. Articles published only in English language were included. Letters to the Editor, historical reviews and unpublished articles were not sought.

CONCLUSIONS: There is a significant biological response by the hard and soft tissues to IL of dental implants. Within the limitations of the present literature review, it is evident that the core issue to observe during IL is the establishment of a good implant primary stability. There is sufficient evidence to suggest that the degree of achieved primary stability during IL protocols is dependent on several factors including bone density and quality, implant shape, design and surface characteristics and surgical technique. Further research is required in situations, such as poor bone quality and quantity and multiple implants or augmentation procedures, which may challenge the attainment of primary stability during IL.

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