



Clin Oral Implants Res. 2003 Oct;14(5):515-27

Critical review of immediate implant loading.

Gapski R, Wang HL, Mascarenhas P, Lang NP.

Department of Periodontics/Prevention/Geriatrics, School of Dentistry, University of Michigan, Ann Arbor, MI 48109-1078, USA.

BACKGROUND: Implant dentistry has become successful with the discovery of the biological properties of titanium. In the original protocol, studies have advocated a 2-stage surgical protocol for load-free and submerged healing to ensure predictable osseointegration. However, the discomfort, inconvenience, and anxiety associated with waiting period remains a challenge to both patients and clinicians. Hence, loading implant right after placement was attempted and has gained popularity among clinicians. Issues/questions related to this approach remain unanswered. Therefore, it is the purpose of this review article to (1). review and analyze critically the current available literature in the field of immediate implant loading and (2). discuss, based on scientific evidence, factors that may influence this treatment modality. **MATERIAL AND METHODS:** Literature published over the past 20 years was selected and reviewed. Findings from these studies were discussed and summarized in the tables. The advantages and disadvantages associated with immediate implant loading were analyzed. Factors that may influence the success of immediate implant loading, including patient selection, type of bone quality, required implant length, micro- and macrostructure of the implant, surgical skill, need for achieving primary stability/control of occlusal force, and prosthesis guidelines, were thoroughly reviewed and discussed. **RESULTS AND CONCLUSION:** Various studies have demonstrated the feasibility and predictability of this technique. However, most of these articles are based on retrospective data or uncontrolled cases. Randomized, prospective, parallel-armed longitudinal human trials are primarily based on short-term results and long-term follow-ups are still scarce in this field. Nonetheless, from available literature, it may be concluded that anatomic locations, implant designs, and restricted prosthetic guidelines are key to ensure successful outcomes. Future studies, preferably randomized, prospective longitudinal studies, are certainly needed before this approach can be widely used.