

Submerged Plateau Implants: A Practical Solution.**crghs.com editorial staff for Tooth for All, MAY 01, 2023**

**“Life is short; Smile while you still have teeth.” – A wonderful quote by Mallory Hopkins.**

Healthy teeth have important effect on one’s diet, health, and overall sense of well-being, thus improving the quality-of-living. A single missing posterior tooth can lead to deleterious effects on one’s health and lifestyle. However, the posterior regions of the jaws have advanced alveolar bone resorption and, therefore, limited amount of bone and risks of injuring the inferior alveolar nerve.

To overcome these, shorter implants should be used. Short implant with plateau design takes advantage of long fins with narrow central bar, thus increasing the amount of implant surface available for osseointegration. The greater the implant surface, the lower is the per-unit pressure acting at such an interface. Submerging the implants provides bacterial seal and space for bone over the implant, which preserves the crestal bone and distributes occlusal stresses equally.

Long-term preservation of the crestal bone makes the use of short implants predictable and encourages the clinician to use short implants in all kinds of bone dimensions and bone quality. The rocket-shaped module of a sloping shoulder can be considered as the ideal implant design for a homo-geneous occlusal force distribution around the implant neck/crestal bone. The “plateau” design presents a unique healing pattern leading to rapid plateau filling with bone due to enhanced migration of osteogenic cells during early healing stages with high remodelling potential, leading to unique long-term Haversian-like bone morphology. The presence of plateaus (fins) on a short, more rounded implant provides a favourable shape and leads to considerably better dissipation of stresses and also prevents “rolling” of the implant.

The macro-geometric design increases the area for ankylosis to bone (and, therefore, the surface area in intimate contact with bone). In daily practice, one may often be challenged with patients who, although meet the ideal criteria for implant treatment, have insufficient bone. Bone grafting may partially solve the issue, but bone grafting is often expensive, time-consuming, has inherent risks and donor site morbidity, is an extra surgical procedure, and is often uncomfortable for the patient. This novel technique minimizes the need for exogenous bone grafting by using autogenous bone graft from the same osteotomy site achieved with slow-speed sequential drilling of the bone.

Thus, overall, the use of submerged implants with plateau design is a viable therapeutic option in improving success for prosthesis of teeth in mandibular posterior edentulous area with limited bone height and reducing morbidity to the patient. Submerged plateau implants have excellent survival rate and crestal bone level maintenance.