Soft Tissue Integration™

The esthetic outcome of implant rehabilitation is of great importance for patient satisfaction. Esthetics is, to a great extent, determined by the level and appearance of the periimplant soft tissues, including the shape of the papillae. The term Soft Tissue Integration™ was coined as an analogue to the term osseointegration. While osseointegration can be described as “the establishment of immediate and long-term implant stability”, Soft Tissue Integration™ refers to “the establishment and long-term maintenance of soft tissue health and esthetics”. Soft Tissue Integration™ is influenced by several factors, such as surgical/clinical technique, macro- and micro (surface) design, biocompatibility of the transmucosal component, as well as soft tissue morphology, including biotype, papilla fill, and degree of scalloped gingival margin1-6.

An example of clinical handling which may jeopardize the Soft Tissue Integration™ is repeated disconnection and reconnection of the transmucosal abutment. This has been reported to result in a more apical position of the connective tissue7. As for biocompatibility, the use of gold alloy transmucosal abutments has been shown to result in receded soft tissue margins and occurrence of bone resorption, while the use of titanium and ceramic abutments result in the formation of a mucosal seal8. Observations from clinical studies evaluating the influence of surface topography on Soft Tissue Integration™ indicate that TiUnite® stabilizes the supracrestal soft tissues9,10. In healthy situations, the soft tissue forms a barrier around the implant by attachment of the junctional epithelium. Studies have shown that the cells of the junctional epithelium form a firm, direct attachment to the TiUnite® surface via hemidesmosomes6,11.

Ongoing and planned activities aim at further evaluating the influence of different factors on Soft Tissue Integration™.

References

