FRIADENT plus surface

The FRIADENT plus implant surface is manufactured through a subtracting process of the pure titanium surface starting by grit blasting with corundum particles (Al₂O₃) followed by a thermal acid etching (neutralization) step. This staged manufacturing process creates a typical 3-dimensional micromorphology, which is characteristic for the surface. The FRIADENT plus surface was first introduced on the market in 2003 on FRIALIT-2 and XiVE implant, and on ANKYLOS implants in 2005. This review summarizes the pre-clinical literature on the plus surface.

A range of surface features have been thoroughly evaluated using different analytical techniques and published reports present chemical and elemental surface features, topographical and wetting characteristics of the FRIADENT plus surface. Furthermore, in vitro evaluations, in vivo experience and findings from retrieved human biopsies are published.

The hydrophobic surface, with a needle like topography at the micro- and nanoscale promotes cell proliferation, differentiation, matrix mineralisation, osteoblast spreading and other biological processes during the early osseointegration. Human histology from biopsies retrieved after 8 weeks in situ show that immediate loading of the ANKYLOS plus implant have positive effect on osteocyte density and bone formation compared to unloaded implants. High bone to implant contact after 4–8 weeks and maintained osseointegration and continuous bone remodeling after 3 years is histologically documented. Results from the use of other analyzing methods of the biological response to the FRIADENT plus surface have also been published.

The pre-clinical documentation on the FRIADENT plus surface is extensive and shows that this implant surface is safe, biocompatible and osteoconductive.

For more information on FRIADENT plus implant in clinical use, please refer to www.dentsplyimplants.com
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