

MicroThread[®] —biomechanical bone stimulation

MicroThread is minute threads on the implant neck that offer optimal load distribution and stress values to ensure positive biomechanical bone stimulation. MicroThread was introduced on the Astra Tech Implant System in 1992. Thus, clinical documentation for MicroThread has been available for almost 30 years. MicroThread was also introduced for DS PrimeTaper Implant System in 2021.

Scientifically proven

The size and shape of the minute retention elements have been thoroughly investigated¹. Peak stress values in the bone can be dramatically reduced with optimal design of the minute threads, particularly when combined with a conical implant abutment connection located below the marginal bone¹⁻⁴. The load transfer characteristics of the implants are dependent on the size and design of the implant neck⁵⁻⁹. In fact, a more optimal load distribution counteracts marginal bone resorption^{10, 11}.

Pre-clinical data has shown benefits with MicroThread as compared with a smooth implant neck in terms of increased bone-to-implant contact^{12, 13} and maintained marginal bone levels¹⁴⁻¹⁶.

Improved long-term marginal bone maintenance

Clinical studies comparing neck designs with and without the MicroThread feature showed more advantageous marginal bone maintenance around implants with MicroThread¹⁷⁻¹⁹. Published data show predictable and well-maintained marginal bone* at 5²⁰⁻²⁴ and up to 10²⁵⁻²⁷ years of follow-up.

Conclusion

MicroThread ensures positive biomechanical bone stimulation and maintained marginal bone levels over the long-term.

* See Scientific review "Marginal bone maintenance with Astra Tech Implant System", www.dentsplysirona.com/science

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