

OsseoSpeed®

- more bone more rapidly

OsseoSpeed, the unique fluoride-treated nanostructured implant surface of the Astra Tech Implant System, was launched in 2004, and was an evolutionary development from its predecessor, the well documented, moderately rough, titanium implant surface, TiOblast.

OsseoSpeed acquired its additional surface characteristics via a chemical treatment and a slight topographic modification to the TiOblast surface. Incorporation of small amounts of fluoride ions into the titanium oxide layer¹⁻⁶, a slight increase on the micrometer scale in surface roughness and a nanoscale topography have been reported for the OsseoSpeed surface⁴⁻¹¹. Information on chemical surface composition and physical properties of the OsseoSpeed surface has been reported elsewhere^{6, 7, 9, 11-17}.

The *in vivo* performance of OsseoSpeed is documented in various experimental models with different focuses^{1, 18-29}. Similar³⁰⁻³³ or increased bone formation and stronger bone-to-implant contact at the OsseoSpeed surface compared to its ancestors (TiOblast and machined titanium surfaces) is reported^{25, 34-39} at shorter healing times^{18, 40, 41}, results which are also confirmed through human histology analyses⁴²⁻⁴⁵. Factors such as enhanced osteoblast differentiation^{2, 4, 38, 46-49}, biocompatibility^{15, 50-52} and thrombogenic properties⁷ of the OsseoSpeed surface have been attributed to the improved and fastened osseointegration.

For information on OsseoSpeed Astra Tech Implant System in clinical use, please refer to www.dentsplyimplants.com

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