

## OsseoSpeed™

- **Bone-growing trigger for dental implants**
- **Faster and safer treatment results**

**A unique bone growth catalyst from the medical device company, Astra Tech, will improve patient treatment standards by bringing a new dimension to the design and performance of titanium dental implants.**

The new patented OsseoSpeed™ surface, now being introduced in Europe and the USA, uses the power of fluoride to encourage the growth of more bone more rapidly after implantation. This is achieved by chemically modifying the surface of the implant with traces of fluoride, providing a dynamic interface with the surrounding bone tissue.

In association with Astra Tech, Professor Jan Eirik Ellingsen, head of the Institute of Clinical Dentistry at Oslo University, has pioneered the development of OsseoSpeed.

“Fast bone growth and strong bonding between implant and bone tissue are vital for good treatment results. OsseoSpeed works by generating a biological and bio-chemical interaction in the early healing phase after implant installation, which will have a positive impact both in the short and long term,” says Professor Ellingsen.

Pre-clinical trials demonstrate that OsseoSpeed produces more bone, more rapidly in the crucial healing period immediately after installation.

“OsseoSpeed will improve healing for all patients,” says Anders Holmén, Dental Medical Director at Astra Tech. “It will help meet patient demand for safer, more effective early loading after installation and it will ensure a predictable long-term function.”

The introduction of OsseoSpeed builds on the success of Astra Tech’s current implant technology and is introduced as a further development of the patented TiOblast™ surface.

The bone-growing power of OsseoSpeed will also allow more patients with soft or a limited quantity of the jawbone to benefit from implant treatment. Stimulating and preserving bone growth encourages healthy gum tissue and helps prevent problems with black 'triangles' appearing between implanted crowns where gum margins have receded.

In-vitro and in-vivo studies<sup>1</sup> with fluoride-modified and unmodified TiOblast surfaces confirm that OsseoSpeed triggers faster, stronger and better quality bone growth at the implant/bone interface. It improves bone growth speed, the total surface contact area and bonding strength by the order of 30-50 percent.

Two further independent scientists, using in-vitro (stem cell) and in-vivo research, have confirmed Professor Ellingsen's findings<sup>2,3</sup> and OsseoSpeed is now backed by a proven and well-documented research record over a period of ten years.

350 patients around the world are currently involved in clinical trials of OsseoSpeed, and about 500 in a clinical evaluation program, in which dentists continuously report to Astra Tech.

<sup>1</sup> Ellingsen, J. E., Lyngstadaas, S. P. *Increasing biocompatibility by chemical modification of titanium surfaces*. In: Ellingsen, J. E., Lyngstadaas, S. P., (eds). *Bio-Implant Interface: Improving biomaterials and tissue reactions*. Boca Raton: CRC Press Inc., 2003:319-336.

<sup>2</sup> Berglundh, T. et al. *Healing of implants with fluoride modified surfaces*. (in preparation)

<sup>3</sup> Cooper, L. F. et al. *Fluoride modification effects on osteoblast behavior and bone formation at TiO<sub>2</sub>-grit blasted c.p.titanium endosseous implants*. (in press)

**For further information, please contact:**

Anders Holmén, Medical Director, Dental, Astra Tech AB,  
Telephone: + 46 (0) 705 563 053

Björn Delin, Product Group and Marketing Director, Dental, Astra Tech AB  
Telephone: + 46 (0) 705 767 260

*Astra Tech AB, part of the AstraZeneca group, develops and manufactures medical implants and advanced healthcare devices for single-use. It designs products that improve patient care, simplify procedures for healthcare personnel and reduce overall healthcare costs. Astra Tech's headquarters and production facilities are located in Mölndal, Sweden. The company is represented globally by 14 subsidiaries and carefully selected local partners.*