

Astra Tech Implant System®

Sustainability and reliability

Continuing to challenge with sound science



Why search further?

For you and your patients

Achieving beautiful, natural-looking esthetics for your implant patients requires biological sustainability—the harmony of marginal bone and surrounding soft tissue over time.

This harmony exists when all the elements of an implant system—implant design, surface treatment, abutment connection—work in unison with biology.

But biological sustainability is a journey, not only a destination.

By searching further and continuing to challenge with sound science, we can provide evidence demonstrating biological sustainability, leading to optimal dental implant treatment outcomes.

Summaries of prospective studies with 5-year data on OsseoSpeed implants with maintained bone levels from implant placement and implant loading confirm stable soft tissue and an average bone reduction of only 0.3 mm.

We search further because we are committed to sound science, providing biological sustainability for a world where everyone can eat, speak and smile with confidence.

Let's take a closer look...



Results that give you peace of mind

Patient esthetics and satisfaction

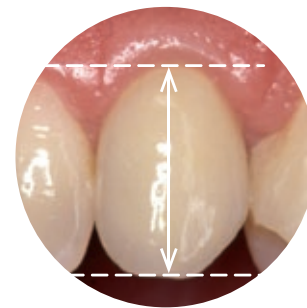
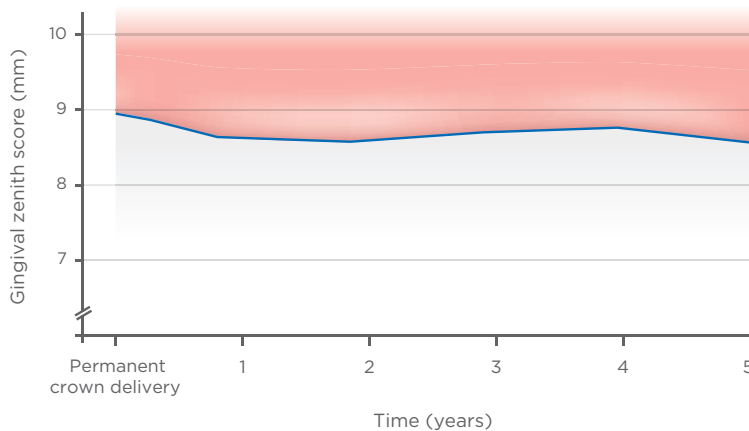
Providing your patients with optimal esthetics is a critical factor of successful dental implant therapy and key to their satisfaction and improved quality of life. Studies measuring esthetics and satisfaction metrics demonstrate improved results with OsseoSpeed implants.

- Stable periimplant soft tissue up to 5 years after implant placement: stable mean gingival zenith scores¹⁻⁴ and increased papilla height the first year from crown placement followed by tissue stabilization.^{1, 2, 5}
- Minimal gingival recession in challenging situations at 3-year follow-up: stable soft tissue levels in situations with limited bucco-lingual or mesodistal space with unchanged mean gingival zenith score.^{3, 4}
- Patients treated with OsseoSpeed implants have reported improvements in overall treatment satisfaction.⁶⁻⁹

“In this and other studies, we observe tissue stability from the time of crown placement. Together with good planning and execution, documented tissue stability provides clinical confidence for the clinician when offering esthetic implant solutions to patients.”

Dr. Lyndon Cooper

Gingival zenith score (mm) over time for implants placed in healed sites¹



Gingival zenith score is defined as the linear distance from the zenith of the buccal gingival margin to the incisal edge of the crown. A decreased gingival zenith score over time means a gain in gingival tissue.

1. Cooper LF, Reside GJ, Raes F, et al. Immediate provisionalization of dental implants placed in healed alveolar ridges and extraction sockets: a 5-year prospective evaluation. *Int J Oral Maxillofac Implants* 2014;29(3):709-17.
2. De Bruyn H, Raes F, Cooper LF, et al. Three-years clinical outcome of immediate provisionalization of single OsseoSpeed implants in extraction sockets and healed ridges. *Clin Oral Implants Res* 2013;24(2):217-23.
3. Maiorana C, King P, Quaas S, et al. Clinical and radiographic evaluation of early loaded narrow-diameter implants: 3 years follow-up. *Clin Oral Implants Res* 2015;26(1):77-82.
4. Galindo-Moreno P, Nilsson P, King P, et al. Clinical and radiographic evaluation of early loaded narrow diameter implants: 1-year follow-up. *Clin Oral Implants Res* 2012;23(5):609-16.
5. Donati M, La Scala V, Di Raimondo R, et al. Marginal bone preservation in single-tooth replacement: a 5-year prospective clinical multi-center study. *Clin Implant Dent Relat Res* 2015;17(3):425-34.
6. Raes F, Cosyn J, De Bruyn H. Clinical, aesthetic and patient-related outcome of immediately loaded single implants in the anterior maxilla: a prospective study in extraction sockets, healed ridges, and grafted sites. *Clin Implant Dent Relat Res* 2013;15(6):819-35.
7. Erkapers M, Ekstrand K, Baer RA, et al. Patient satisfaction following dental implant treatment with immediate loading in the edentulous atrophic maxilla. *Int J Oral Maxillofac Implants* 2011;26(2):356-64.
8. Vercruyssen M, van de Wiele G, Teughels W, et al. Implant and patient-centered outcome of guided surgery: a 1-year follow-up, an RCT comparing guided surgery with conventional implant placement. *J Clin Periodontol* 2015;41(12):1154-60.
9. Slot W, Raghoobar GM, Vissink A, et al. Maxillary overdentures supported by four or six implants in the anterior region: 1-year results from a randomized controlled trial. *J Clin Periodontol* 2013;40(3):303-10.

Outperforming with sound science

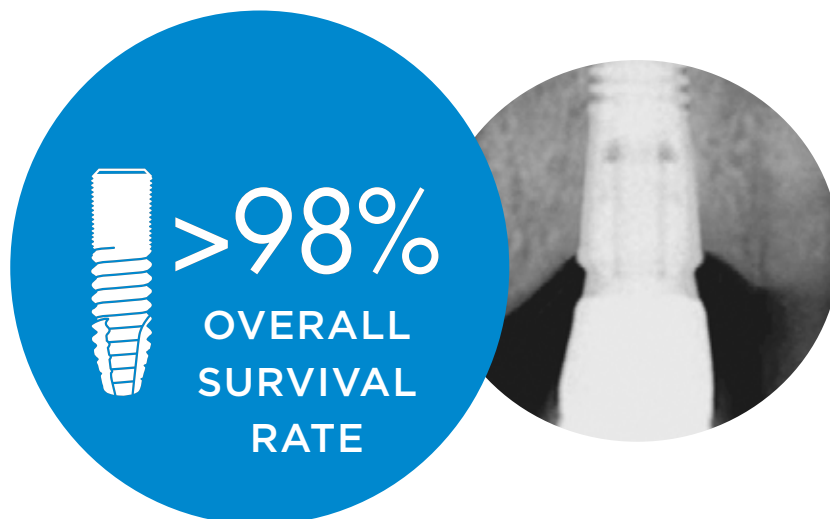
Evidence confirms biological sustainability

In 1986, a review article was published describing the marginal bone remodeling pattern in dental implant treatment. Data demonstrated that the greatest reduction in marginal bone occurs during the early healing phase and up to the first year in function. Thereafter, marginal bone remodeling stabilizes at approximately -1.5 mm after 5 years—the results became the accepted standard norm for evaluating marginal bone remodeling.**

To improve our understanding, we have vigilantly performed systematic literature searches and reviews, following the performance of the Astra Tech Implant System with regard to bone maintenance and remodeling.

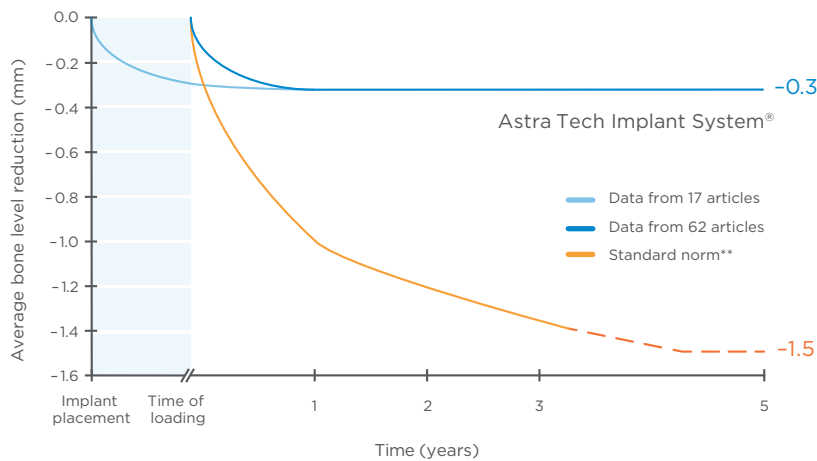
“We can see that modern implants, such as the OsseoSpeed, continue to deliver most limited marginal bone resorption over 5 years or more of follow-up. We are presently active in a doctoral thesis program with one aim: to introduce stricter criteria for success with respect to what is acceptable marginal bone loss compared to our norm of 1986.”

Prof. Tomas Albrektsson



Numerous studies demonstrate that marginal bone around OsseoSpeed implants is maintained well above the standard norm—even after 5 years in function.*

Marginal bone maintenance with Astra Tech Implant System



Search criteria

- Prospective studies, published in peer-reviewed journals
- Full cohort studies (minimum of 10 patients, followed for a minimum of 1 year after loading)
- Standard protocol (no bone augmentation, no immediate placement in extraction socket)
- Marginal bone maintenance evaluated from time of implant placement and/or loading

Important findings

- Data from 17 articles showed an average bone level reduction from implant placement to 5 years of 0.3 mm
- Data from 62 articles showed an average bone level reduction of 0.3 mm, 1 year after implant loading, remaining stable for 5 years
- Overall implant survival rate was >98%

Studies were conducted in both educational institutions and private practices, including specialists and general practitioners.

* Astra Tech Implant System level based on data from 62 articles (published in English, peer-reviewed journals) presenting radiological data on study cohorts of no less than 10 patients receiving standard surgical procedures and followed for minimum 1 year after loading. Literature search September 2014.

** Standard norm (less than 1 mm bone loss during the first year of loading and less than 0.2 mm annually thereafter, to level out at approximately -1.5 mm after 5 years of loading) according to: Albrektsson T. et al., Int J Oral Maxillofac Implants 1986;1(1):11-25, Albrektsson T. and Zarb GA., Int J Prosthodont 1993;6(2):95-105, Roos J. et al., Int J Oral Maxillofac Implants 1997;12(4):504-514.



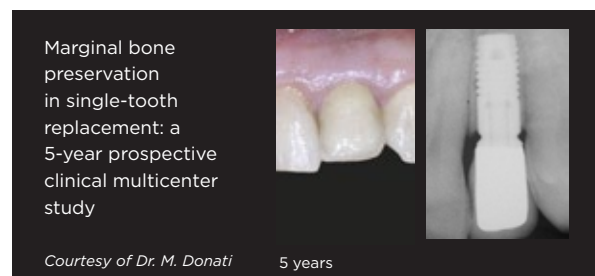
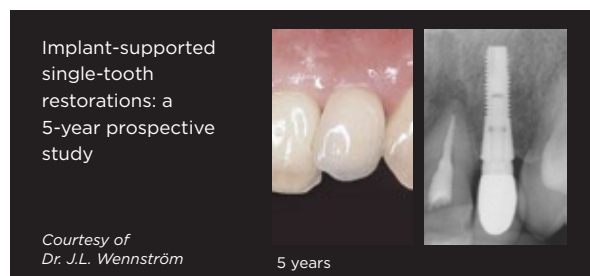
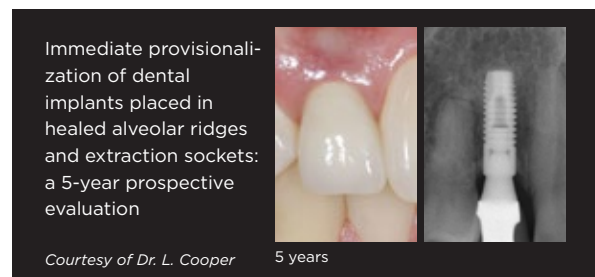
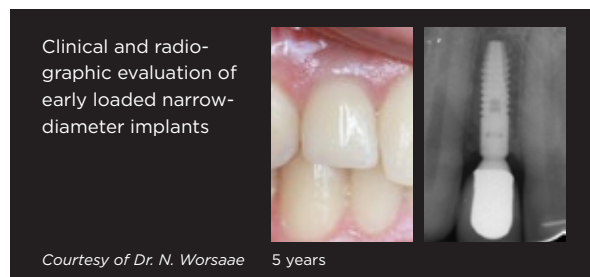
For a complete publication list, visit dentsplyimplants.com/science

MAINTAINED
ESTHETICS EVEN AT
5 years

The harmony behind biological sustainability

The foundation for dental implant success

Properly maintained marginal bone is critical for supporting adjacent soft tissue. Abundant, healthy bone and soft tissue ensures your ability to provide your patients with ideal esthetics.



A key factor in delivering biological sustainability is the **Astra Tech Implant System BioManagement Complex®**. This unique combination of interdependent features ensures reliable, predictable and esthetic results both in the short and long term.



OsseoSpeed® - more bone more rapidly
A chemically modified titanium surface with a unique nanoscale topography that stimulates early bone healing and speeds up the bone healing process.

MicroThread® - biomechanical bone stimulation
Minute threads on implant neck that offer optimal load distribution and stress values.

Conical Seal Design™ - a strong and stable fit
A conical connection that seals off the interior of the implant from the surrounding tissue, minimizing micromovement and microleakage.

Connective Contour™ - increased soft tissue contact zone and volume
The unique contour that is created when you connect the abutment to the implant.

Time to upgrade?

Considering how important marginal bone is for optimal rehabilitation, we invite you to take a closer look at your current implant system and compare with the marginal bone maintenance achievable with the Astra Tech Implant System.

If sound science and extensive research is important to you, take a closer look at Dentsply Sirona Implants.

About Dentsply Sirona Implants

Dentsply Sirona Implants offers comprehensive solutions for all phases of implant therapy, including Ankylos®, Astra Tech Implant System® and Xive® implant lines, digital technologies, such as Atlantis® patient-specific solutions and Simplant® guided surgery, Symbios® regenerative solutions, and professional and business development programs, such as STEPPS™. Dentsply Sirona Implants creates value for dental professionals and allows for predictable and lasting implant treatment outcomes, resulting in enhanced quality of life for patients.

About Dentsply Sirona

Dentsply Sirona is the world's largest manufacturer of professional dental products and technologies, with a 130-year history of innovation and service to the dental industry and patients worldwide. Dentsply Sirona develops, manufactures, and markets a comprehensive solutions offering including dental and oral health products as well as other consumable medical devices under a strong portfolio of world class brands. As The Dental Solutions Company™, Dentsply Sirona's products provide innovative, high-quality and effective solutions to advance patient care and deliver better, safer and faster dentistry. Dentsply Sirona's global headquarters is located in York, Pennsylvania, and the international headquarters is based in Salzburg, Austria. The company's shares are listed in the United States on NASDAQ under the symbol XRAY.

Visit www.dentsplysirona.com for more information about Dentsply Sirona and its products.