Welcome to the world of Astra Tech Dental
The free
Astra Tech is a company in the AstraZeneca Group, one of the world’s leading pharmaceutical companies. And our focus is clear: advanced research and development in the field of implant dentistry.

When talking about implant dentistry, everybody promises the same thing: beautiful smiles made easy. And so do we. Yet, as you know, there is much more to it. So what are you looking for in an implant system? What’s important to you and your patients?

At Astra Tech Dental we aim to provide dental professionals with the freedom of unlimited possibilities when it comes to implant therapy. Our products and solutions are designed to help make your job easier, but we never compromise on reliable long-term function and esthetics, all for the benefit of the patient. In fact, the Astra Tech Implant System™ is one of the most thoroughly documented implant systems in the world.

As an open-minded company, one of our core values is freedom, which is why we also offer open solutions for all major implant systems. Open solutions from Astra Tech Dental include Atlantis™—patient-specific abutments for cement-retained restorations and Cresco™—precision method for screw-retained restorations.

At Astra Tech, it all starts with an understanding of the biological and clinical processes involved in dental implant therapy. That allows us to learn, ask “what if?” and constantly offer better solutions.
1985 Astra Tech enters the field of implant dentistry, taking the first step towards the Astra Tech BioManagement Complex™.

1989 The idea of blasting the implant surface with titanium dioxide particles to increase bone growth and osseointegration is presented and the TiOblast™ surface is born.

1990 The first clinical study on the TiOblast™ surface is initiated, followed by the TiOblast implant launch.

1990 OsseoSpeed™ A team at the University of Oslo, Norway, starts asking themselves, “What if you could speed up the osseo-integration process by chemically modifying the implant surface?” The idea of a fluoride-modified implant surface is born.

1991 MicroThread™ The idea of minute threads on the implant neck to ensure positive biomechanical bone stimulation and maintained marginal bone level is born. After comparing 840 threads of different shapes and sizes, the optimal profile for positive stress distribution is identified.

1991 The first clinical study with MicroThread™ on a tapered implant neck is initiated.

1993 A straight implant with MicroThread™ is developed and launched.

1993 Clinical use of the first generation of implants with Conical Seal Design™ and Connective Contour™ is initiated in a study at the Karolinska University Hospital in Stockholm, Sweden.

A continuous evolution

The groundbreaking innovations by Astra Tech Dental are the results of knowledge and understanding of the biological and clinical processes involved in implant therapy. We look upon the development of our company, our implant system and what we can offer as a continuous evolution—some of the steps are vast and groundbreaking while others make a day in your implant practice a little bit easier.
1992 Astra Tech acquires all intellectual properties on the OsseoSpeed™ surface and starts the development process together with the University of Oslo.

2000 The first patient receives an OsseoSpeed™ implant at the University of Oslo.

2001 A randomized controlled clinical trial on a fluoride-modified surface of orthopedic implant is started.

2002 The first clinical multicenter study on OsseoSpeed™ is initiated.

2003 The FOCUS project, a unique effectiveness study, is initiated, involving more than 100 clinicians in Europe and the United States.

2004 The first and only chemically modified implant surface – OsseoSpeed™ – is launched at EAO in Paris. Based on the remarkable results, the expression “more bone more rapidly” is coined.

2005 Astra Tech acquires Cresco™, a unique method for screw-retained implant prosthetics for a perfect fit. The Cresco method fits all major implant systems.

2006 New results on the OsseoSpeed™ surface and its biological responses demonstrate the importance of the fluoride-modified surface with its unique nanoscale topography.

2007 Astra Tech acquires Atlantis™, an innovative dental CAD/CAM company providing patient-specific abutments. The concept fits all major implant systems.


2009 Astra Tech Implant System™ is proven clinically to maintain the marginal bone level, presenting a mean marginal bone reduction of only 0.3 mm. Five-year data on OsseoSpeed™ implants confirm the excellent results.

2010 OsseoSpeed™ TX is launched. TX stands for tapered apex and it is introduced on the complete implant assortment.

2019 Clinical trials on the OsseoSpeed™ surface and its biological responses demonstrate the importance of the fluoride-modified surface with its unique nanoscale topography.

1993 The first experimental pre-clinical studies on OsseoSpeed™ are initiated.
Astra Tech Implant System™

To design a successful implant system, one needs not only a great deal of knowledge about biology and mechanics, but also an understanding of what happens when the two interact. Early on in the development of the Astra Tech Implant System™, we realized the value of a holistic approach. That is why our system is uniquely based not only on a biological but also a biomechanical approach. When introducing the OsseoSpeed™ surface with a unique nanoscale topography, we took this to the next level by incorporating biochemistry.

Astra Tech BioManagement Complex™

Just as in nature, a successful existence cannot be determined by one single element alone. The terms biomechanics and biochemistry are no longer sufficient as there must be several interdependent features working together. This interaction is what we call the Astra Tech BioManagement Complex™.

The establishment and maintenance of a soft tissue seal around the transmucosal part of an implant (i.e. the abutment) is vital for implant treatment success. The formation of the soft tissue barrier around the abutment is fundamentally a result of wound healing. Thus, during healing a barrier epithelium will form adjacent to the abutment. Apical to this epithelium, a zone of connective tissue will form and attach to the titanium surface on the abutment to protect the underlying bone tissue. The barrier epithelium and the connective tissue–implant interface will consequently establish a certain biological width of the peri-implant mucosa. It is important that this process takes place undisturbed, without micro-movements and micro-leakage in the abutment-implant connection, for optimal healing and long-term result.

Nature itself takes care of the soft tissue sculpturing, as long as it is provided with the right conditions, maintained marginal bone levels and healthy soft tissue. With the Astra Tech Implant System you can count on optimal soft and hard tissues.

Initial bone healing and long-term maintained marginal bone levels are affected by the implant design and surface properties. Optimal biomechanical and biochemical stimuli from the implant surface are of the utmost importance for the bone healing process.
The long-term marginal bone maintenance level is primarily dependent on biomechanical stimulation from the implant, particularly around the implant neck. This means that a successful clinical result, in both the short and long term, is related to the features of the implant.

Failing to control these factors causes marginal bone loss and problems such as black triangles between teeth and, in a worst case scenario, the implant might be lost. Infection or irritation of the soft tissue can also disturb the healing process and the long-term result. These problems might be caused by factors not related to the implant as such, but to a lack of proper maintenance and care by the patient or by his or her general health status. But it can also be caused by micro-leakage and micro-movements due to a less favorable implant design. Our way of safeguarding a reliable, predictable and esthetic short- and long-term result, is with the Astra Tech BioManagement Complex™.

This is a unique combination of the following features: OsseoSpeed™, MicroThread™, Conical Seal Design™, Connective Contour™.

The unique soft tissue seal on the abutment level, together with biomechanical interactions with the bone around the implant neck, ensure optimal conditions for the bone and soft tissue. The load distribution and the lack of micro-movements and micro-leakage between implant components are the main reasons for maintained healthy peri-implant tissues and preserved marginal bone levels.

Astra Tech BioManagement Complex™
The benefits of OsseoSpeed™ TX implants
With the OsseoSpeed™ TX implants the biological, biochemical and biomechanical prerequisites are optimized to create excellent results, both in the initial healing phase and in a long-term perspective. The growing power of OsseoSpeed makes it a perfect solution for all your implant patients:

- **Predictable results for all patients, including compromised cases, where implants with other surface treatments may be less effective.**
- **Allows for implant treatment in all indications.**
- **Improved biological support for immediate installation and early loading protocols.**

Building on success – the OsseoSpeed™ surface
We all know that the surface of the implant is an active component in clinical success. And the general consensus is that a rough surface is superior to a more smooth surface. Since 1990, all Astra Tech implants have featured a well-defined rough surface called TiOblast™, offering proven biomechanical benefits in terms of bone formation and implant retention. In fact, we are the only implant provider with up to ten years of clinical follow-up of a defined “micro-roughened” implant surface.

More bone more rapidly
Building on the proven success of TiOblast, OsseoSpeed is the first and only implant in the world with a chemically modified titanium surface that stimulates early bone healing and speeds up the bone healing process.

The result of the micro-roughened titanium surface treated with fluoride is increased bone formation and stronger bone-to-implant bonding. Together with MicroThread™ on the implant neck, OsseoSpeed provides true growing power in action for a more reliable and effective treatment. The benefits of OsseoSpeed are scientifically proven and well-documented.

Outstanding clinical results
The characteristics and properties of the OsseoSpeed surface have been reviewed in numerous published articles revealing positive bone response and optimal clinical results. Results from the extensive OsseoSpeed clinical study program, show good functionality, and predictable and maintained marginal bone levels with a mean marginal bone loss of only 0.3 mm. There is no significant dip in Implant Stability Quotient values traditionally seen at implants 2-6 weeks after installation. This is interpreted as a continuous gain in osseointegration and stability. Published data show that the OsseoSpeed implant can be safely used with a reported survival rate of 94.5% to 100%, including the use of immediate loading protocol even in the atrophic edentulous maxilla, in sinus lifted maxillary posterior jaw sites, immediate installation in extraction sockets and implants placed in atrophied mandibles close to the nerve.

OsseoSpeed is suitable for all implant patients and FDA cleared indications include that OsseoSpeed is especially indicated for use in soft bone applications where implants with other surface treatments may be less effective. Three- and five-year clinical follow-up of OsseoSpeed confirms the excellent results*.

Do you want to have a complete list of solid evidence? Visit www.astratechdental.com.

---


MicroThread™ – biomechanical bone stimulation

The neck of Astra Tech implants is designed with MicroThread™ – minute threads that offer optimal load distribution and stress values. This design is based on a thorough understanding of bone physiology, which is vital to optimal implant design. Since bone tissue is designed to carry loads, dental implants must be developed to mechanically stimulate the surrounding bone in order to preserve it, taking into consideration that the critical point of the implant-bone interface is located at the marginal cortical bone where peak stresses occur.

Conical Seal Design™ – strong and stable fit

The Conical Seal Design™ is a conical connection under the marginal bone level that transfers the load deeper down in the bone. Compared to conical connections above the marginal bone and flat-to-flat designs, Conical Seal Design reduces peak stresses and thereby preserves the marginal bone. It also seals off the interior of the implant from the surrounding tissue, minimizing micro-movements and micro-leakage. Conical Seal Design simplifies maintenance and ensures reliability in all clinical situations. What’s more, the tight and precise-fitting implant-abutment relation of the Conical Seal Design makes abutment connection a quick and simple procedure. The abutment is self-guiding and the installation procedure is non-traumatic, helping to eliminate the risk of bone damage.

Connective Contour™ – increased soft tissue contact zone and volume

The Connective Contour™ is the unique contour that is created when you connect the abutment to the implant. This contour allows for an increased connective soft tissue contact zone both in height and volume, which integrates with the transmucosal part of the implant, sealing off and protecting the marginal bone.
**Immediate functional loading of implants in single tooth replacement: a prospective clinical multi-center study.**

Authors: Donati M., et al.

Courtesy of: Dr. Donati M., 2008

**A 5-year prospective study of single-tooth replacements supported by the Astra Tech implant: a pilot study.**

Authors: Gotfredsen K., et al.

Baseline to 15 years (post-study follow-up)

Courtesy of: Dr. Gotfredsen K., 2008

**A 5-year prospective study of Astra single tooth implants.**

Authors: Palmer R.M., et al.

Baseline to 5 years

Courtesy of: Dr. Palmer R.M., 2008

**Implant-supported single-tooth restorations: a 5-year prospective study.**

Authors: Wennström J.L., et al.

Baseline to 12 years (post-study follow-up)

Courtesy of: Dr. Wennström J.L., 2008

**A 5-year prospective study of single-tooth replacements supported by the Astra Tech implant: a pilot study.**

Author: Gotfredsen K.

Baseline to 15 years (post-study follow-up)

Courtesy of: Dr. Gotfredsen K., 2008
Why accept bone loss?

The maintenance of the marginal bone is crucial both from a functional as well as an esthetic point of view. Yet, some bone loss is commonly accepted as an unavoidable consequence of implant treatment. Some implant suppliers even claim that it is positive and necessary in order to establish a biological width.

At Astra Tech, we have never accepted this approach because there is no reason for you or your implant patients to accept major bone loss. The Astra Tech Implant System™ is proven clinically to maintain marginal bone level. Preserving marginal bone levels and establishing the biological width at the abutment level are really all about ensuring the right stimulation of the bone and promoting healthy soft tissue. Like the proverb, “Which came first, the chicken or the egg?” healthy soft tissue and maintained marginal bone are interdependent; one cannot exist without the other. While an important task of the soft tissue is to protect the bone, the bone must be maintained to help support the soft tissue, a necessary symbiosis—just as Astra Tech BioManagement Complex™.

It is time to challenge old truths

The standard norm regarding dental implant treatment success from 1986 does not reflect what is possible to achieve today. There are no reasons why the clinician or the patient should accept a marginal bone loss of up to 1.5 millimeters based on a standard set 20 years ago. It has been proven in study after study that with the Astra Tech Implant System the mean marginal bone level reduction is only 0.3 millimeters over five years.

“The limited marginal bone resorption being documented on Astra Tech implants indicates that it is time to reconsider our old ‘standard’ from 1986. The new standard should perhaps only allow 50% or less of the bone resorption currently accepted as a successful result.”

Prof. Tomas Albrektsson
Sahlgrenska Academy, University of Gothenburg, Sweden

Marginal bone maintenance with Astra Tech Implant System™

[Graph showing marginal bone level change over time with Astra Tech Implant System™ and Standard norm]
The comprehensive study program of the Astra Tech Implant System™ started in 1985. Today, more than 330 articles have been published in scientific journals, covering a wide variety of topics, from immediate loading to long-term marginal bone level maintenance.

The data demonstrates exceptional results:

- High success and survival rates.
- No or limited marginal bone level resorption.
- Healthy peri-implant tissues.
- The same excellent clinical outcome with one-stage and two-stage surgical protocols.
- Predictable results for immediate and early loading protocols.

Read about the latest findings and learn more about our scientific documentation on www.astratechdental.com.
bility
Simplicity makes sense

The Astra Tech Implant System™ allows you to provide your patients with superior results: predictable, reliable and simple, with outstanding esthetics for every clinical situation. The system is streamlined, yet the range of components offers the versatility needed for achieving superior outcomes. With the Astra Tech Implant System, you have the flexibility to manage every clinical situation and to adapt to different challenges as they arise:

• One system for all indications.
• Suitable for both one-stage and two-stage surgery.
• Designed for immediate and early restoration.
• Restorative freedom and simplicity.

By streamlining our range of components and instruments, we make clinical procedures easier, as well as less time- and cost-consuming. Our system includes a minimum of interchangeable components, yet allows maximum restorative flexibility—one system for all indications.

Surgical flexibility

Convincing results from clinical research demonstrate a wide range of options for surgical and restorative procedures. In cases involving immediate installation and early restorations, the two-component design is particularly important for adapting the final soft tissue contour to achieve optimal esthetic results. Depending on the situation for each individual patient you can choose one-stage or two-stage surgery.

A system that works

OsseoSpeed™ TX implants are available in a complete range of diameters and sizes for all indications, including situations with limited space or bone quantity.
**Facilitate™ – computer guided implant treatment**

Facilitate™ helps to ensure accuracy and contributes to avoid unpleasant surprises during implant surgery. It also provides better control over the esthetic outcome. The concept is based on a 3D visualization of the patient’s anatomy and the software enables you to measure and locate vital structures, such as the mandibular nerve, sinus cavities and nasal floor.

The software program also contains 3D images of implants, abutments and teeth. This ensures efficient, accurate and reliable planning of implant positions, sizes and number of implants, and abutments to be used. When the case is planned, a surgical guide is ordered to make sure that the planning result will be replicated in the real surgical situation. The surgical guide and instruments are specifically designed for the Astra Tech Implant System™.

**BoneTrap™ – the simple way to collect valuable bone**

BoneTrap™ is the ultimate device for harvesting valuable bone particles during implant surgery that would otherwise be discarded. It is easy to handle, requires no preparation or additional equipment and minimizes the use of costly artificial augmentation material for simplicity and patient efficacy. Autologous bone is an asset too valuable to be wasted. BoneTrap can be used for all implant systems.

With BoneTrap™ you can quickly and easily collect the patient’s own bone during implant surgery.

The Facilitate™ software program also contains 3D images of implants, abutments and teeth.
Restorative freedom and simplicity
Astra Tech offers a range of prosthetic solutions for individualized, esthetic results. Whether you have a cement-retained, screw-retained or attachment-retained situation, or are looking for pre-fabricated or patient-specific abutments, we have a solution for you.

The absolute top-of-the-line when it comes to cement-retained restorations is Atlantis™ – CAD/CAM abutments designed for each individual patient.

Using patient-specific abutments instead of stock abutments gives several advantages:

- The possibility to create an optimal emergence profile of the abutment, supporting long-term esthetics both for the soft tissue and the final restoration.
- Margins can be placed at a level where there is an easy and safe removal of excessive cement, eliminating soft tissue problems caused by remaining cement.
- The abutment design gives optimal support and retention for the final restoration and, at the same time, reducing costs for expensive framework material, such as gold alloys.

Atlantis™ – patient-specific abutments for all major implant systems
Atlantis is the leading CAD/CAM solution for patient-specific abutments in the US. The secret behind the success is the patented software, Atlantis VAD™ (Virtual Abutment Design) used by Astra Tech to design the abutments. With Atlantis VAD, abutments are uniquely designed from the final tooth shape for a more natural esthetic result and optimal mechanical properties.

This patented process provides unlimited possibilities and patient-specific solutions for single, multiple and full arch units. Atlantis abutments improve the final esthetic result for all major implant systems.

Atlantis™ Abutment – Titanium
A titanium abutment suitable for all positions in the mouth.

Atlantis™ Abutment – GoldHue (TiN coated titanium/gold-shaded)
Made of titanium with a gold-shade achieved through a thin coating of biocompatible titanium nitride (TiN), to provide a warm, esthetic tone under the gingiva for a natural result. For all positions in the mouth.

Atlantis™ Abutment – Zirconia, white
Atlantis™ Abutment – Zirconia, shaded
Perfect for challenging cases in the esthetic zone, but can also be used for all positions in the mouth.

Duplicate of an Atlantis™ Abutment
A duplicate of an Atlantis™ Abutment, ordered at the time of initial order and in the same material; this serves as a master die for the laboratory (available in titanium and goldshaded titanium).

Later order of an Atlantis™ Abutment
A later duplicate or modification of an Atlantis™ Abutment previously ordered.
Cresco™ – screw-retained solutions for a perfect fit every time

When it comes to screw-retained implant bridges, Cresco™ is proving to be the preferred choice of both clinicians and dental technicians. The reason is simple: freedom and perfect fit every time. Cresco is a straightforward, easy-to-use solution and is available in different framework materials for all major implant systems. Advantages with Cresco™:

- Angulation for optimal esthetics.
- Available for all major implant systems in different framework materials.
- Cresco API™ kit - All Parts Included for simplicity.
- Perfect fit every time.

For optimized inventory management and coordination between the treatment teams, the Cresco API™ kit contains everything needed to carry out the clinical and laboratory procedures.

Pre-fabricated abutments for cement-retained solutions

If you prefer pre-fabricated abutments, we recommend DesignLine™ that consists of ZirDesign™, TiDesign™, CastDesign™ and TempDesign™.

Another option is Direct Abutment™. For simplified and efficient inventory management, the Direct Abutment API™ kit contains the components necessary for the clinical and laboratory procedures. The kit includes abutment, carrier, pick-up, healing cap, replica and burnout cylinder.

Overdenture solutions

For overdenture solutions you can choose between bar and ball attachments. With the Locator™ attachment you can accommodate different angles and levels of retention.
The act of teaching and learning has continued for thousands of years; layers of ancient knowledge and new discoveries have ultimately added up to the world we currently live in. But what if we suddenly stopped learning? Our history is marked by advances in technology and the constant growth of knowledge, with no sign of decreasing. On the contrary, the pace of technological changes and the tidal wave of new information are actually increasing. Lifelong education is therefore a commitment to being professional, keeping up-to-date and continuously seeking to improve our knowledge and skills.
Training & Education,  
a world of inspiration

Inspired by continuous learning, Astra Tech Dental offers a wide selection of courses in more than five hundred locations worldwide. Thanks to our long-term collaboration with clinical centers and universities all over the world, our courses reflect the most recent scientific information and technology. Irrespective of your previous implant experiences and skills, we are confident that you will find courses in our catalog and on our website that will match your individual interests and needs.

Course levels

Basic courses for all members of the dental team new to implant treatment.

Intermediate courses for all members of the dental team with basic knowledge of implant treatment, (i.e. have participated in a basic course and gained some clinical experience).

Advanced courses for all members of the dental team who have participated in basic and intermediate courses and gained enough clinical knowledge and experience to learn more about advanced treatment protocols.

Course categories

- Implant Surgery
- Implant Prosthetics
- Implant Surgery & Prosthetics
- Computer Guided Implant Treatment
- Laboratory Techniques
- Clinical Photography
- Practice Building
- Seminar/Symposium

Range of courses

The local and international education programs collectively offer a wide and deep selection of courses. Visit www.astratechdental.com regularly and have a look at all our available courses, since the program is continuously updated.

Course completion

After the course you will receive a diploma signed by the main speakers. You may also contact your local market representative for CE Credits.
Dedicated service and support
Astra Tech is committed to long-term cooperation with all members of the dental team. Cooperation means not just supplying a reliable product, but supporting you with solutions and advice, as well as providing information for patients and training.

Through documentation updates, seminars and training workshops, we keep you informed on the latest developments in implant dentistry. You can also receive support for your practice development, such as patient information evenings and advertising. Astra Tech offers an extensive warranty program for all our customers.

Wherever Astra Tech is represented, we are committed to providing the highest levels of service and expertise, a helping hand and inspiration in your day-to-day work.

Quality and environment
Astra Tech is committed to providing high quality products that are based on innovative design, materials science and production technology.

Putting our philosophies into practice demands endless attention to quality, from research and design to manufacturing and packaging. It goes without saying that all implant components and instruments comply with the highest quality management standards. Astra Tech also follows the international guidelines regarding safety, health and the environment adhered to by all companies in the AstraZeneca Group. We economize on natural resources, reducing the impact on the environment.

The human side of business – who we are at Astra Tech Dental
Every patient is an individual and a fellow human being. This point of view governs everything we do at Astra Tech Dental, because we are all potential implant patients. That’s why our business is personal.

Our job, together with our customers, is not just about replacing one or several lost teeth; it is also about bringing back the joy and quality of life that has been lost due to edentulism. This is a huge responsibility, which we take very seriously. At the same time we must invest in advanced research and development to be competitive and maintain our leading position. We also have to fulfill the legal requirements regarding safety and quality of medical devices. But legal requirements, sales profits and humanity create no conflict of interest. On the contrary, they all work together and stimulate us to find better solutions and results, which benefit our customers and, in the end, the patient.

When it comes to clinical studies and documentation of our products and processes, we have chosen additional requirements beyond what is necessary. Why do we do that? The answer is simple: we don’t believe in shortcuts. It feels good to know that what we do in our daily work brings joy and quality of life to a large number of fellow human beings today, tomorrow and beyond.
So contact us today –and get inspired!


De Kok J, Chang SS, Maritry JD, Cooper IF. A retrospective analysis of peri-implant tissue responses at immediate loaded, provisionalized microthreaded implants. J Biomech 2003;36(9):1247-58. (ID No. 78915)


Rasmusson A, Lassen NBA, Beh paraphrasing 469-75. (ID No. 75181)


A successful implant system cannot be determined by one single feature alone. Just as in nature, there must be several interdependent features working together. The following combination of key features is unique to the Astra Tech Implant System™:

- **OsseoSpeed™** — more bone more rapidly
- **MicroThread™** — biomechanical bone stimulation
- **Conical Seal Design™** — a strong and stable fit
- **Connective Contour™** — increased soft tissue contact zone and volume