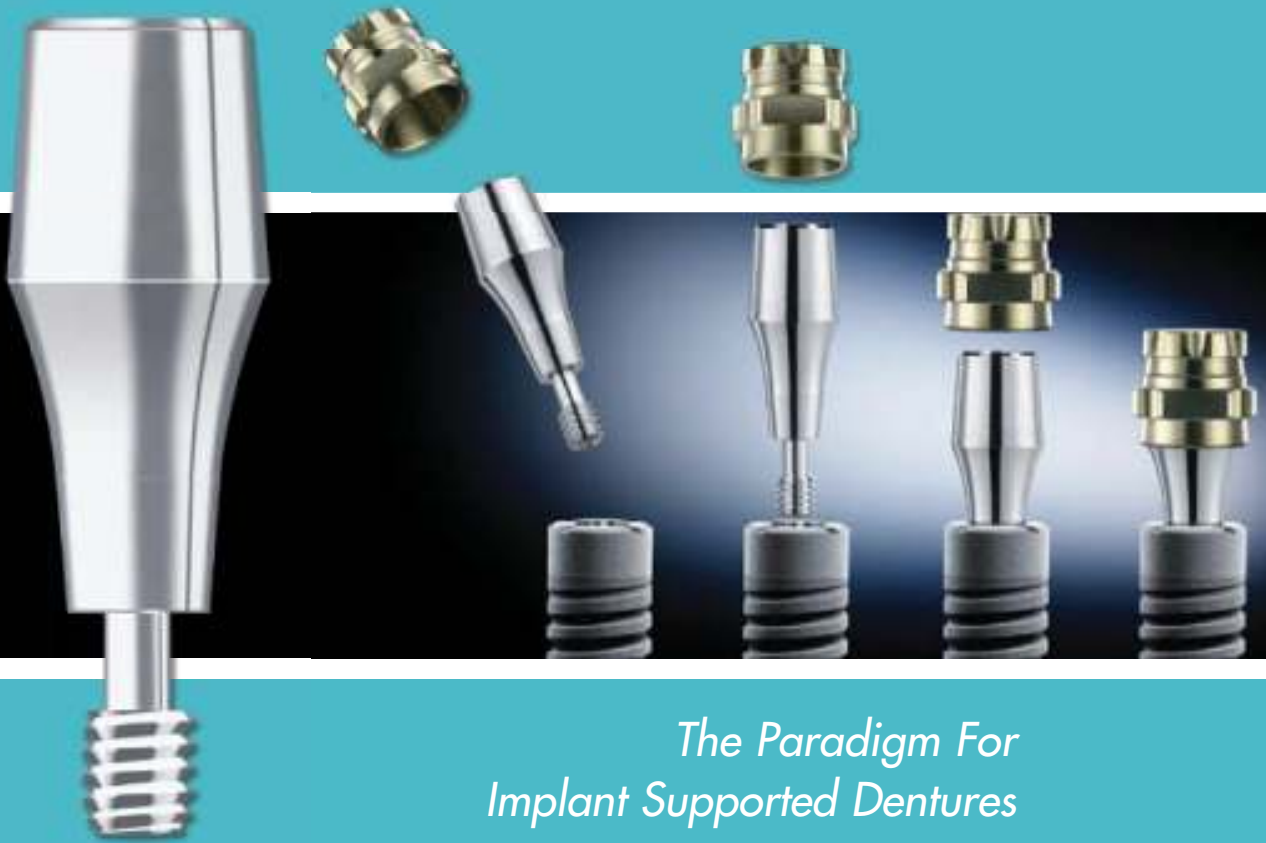


ANKYLOS[®]

DENTSPLY
TULSA DENTAL
SPECIALTIES

Syncone Concept

Redefining Success In Implant Dentistry



*The Paradigm For
Implant Supported Dentures*

ANKYLOS® | Redefining Success in Implant Dentistry.

Syncone Concept

The Concept

Dental implants provide the foundation for prosthetic systems that look and function like natural teeth. While aesthetics and function are considered the primary benefit of the dental implant procedure, patients also desire reduced treatment times. The most advanced implant systems can decrease the amount of time and steps required for successful implant treatment.

Background

In 1979, Ledermann successfully demonstrated that four implants can be immediately loaded in the edentulous mandible and postoperatively splinted with a bar-overdenture. His approach was widely acclaimed, as it enabled rapid patient treatment, eliminated the need for multiple surgical procedures, and documented a reduction in overall patient stress.

However, despite Ledermann's innovation, this early bar-supported restoration concept was imperfect. Ledermann's method was achieved through lengthy laboratory procedures and required the use of excessive materials. Patients encountered up to 24-hour delays, during which local anesthesia wore off and swelling increased (making prosthesis delivery uncomfortable or complicating complete seating of the denture).

Current Systems: Room for Improvement

While current systems have arguably improved their restoration methods, they are still lacking. Almost every current implant system requires the use of laboratory-fabricated superstructures. Thus, patients continue to experience increased costs and a delay between implantation and the subsequent restoration fitting.

SynCone Design Concept

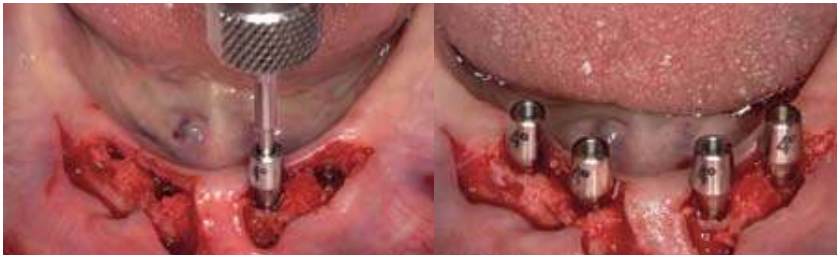
In an effort to improve bar and clip overdenture systems, DENTSPLY Tulsa Dental Specialties' SynCone System was developed with the following in mind:

- Meeting the requirements for immediate treatment.
- Decreasing total treatment time.
- Simplifying technical procedures.
- Cost effective treatment.

Bibliography

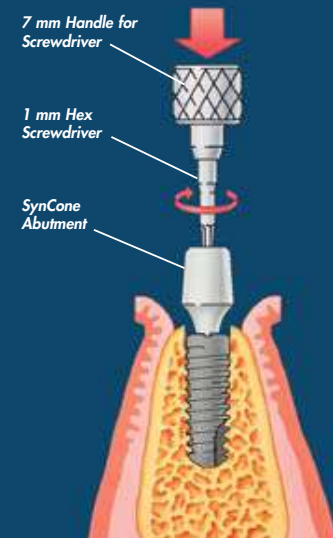
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Prosthetic Procedure – Immediate Loading*



For final abutment placement use the 1 mm prosthetic ratchet Insert Instrument and prosthetic ratchet.

Before inserting the abutment, carefully rinse and dry the inner cone of the implant. Please refer to the "Care of Instruments" Manual (MI-0522).



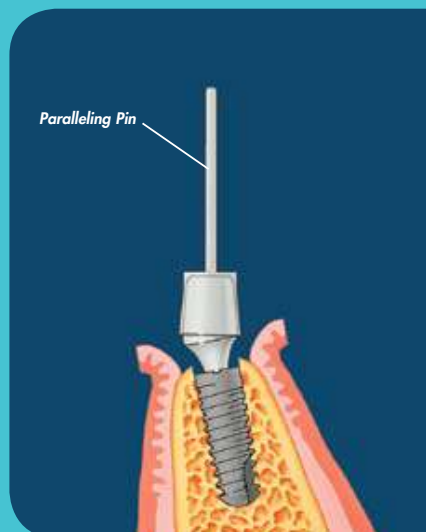
Inserting SynCone Abutments

The blue trial abutments from the Standard Abutment System can be used to determine the sulcus height and angulation prior to selecting the abutment.

Sterilize the pre-fabricated 4° tapered SynCone Abutments and Caps. The SynCone Abutments are available with sulcus heights of 1.5 mm, 3.0 mm, and 4.5 mm. These various height options are intended to accommodate variability in sulcus heights or depth of implant placement.

Use the prosthetic ratchet with the 1 mm hex prosthetic ratchet Insert, or the torque-controlled hand piece, to tighten in the SynCone Abutment. **The recommended torque is 15Ncm.**

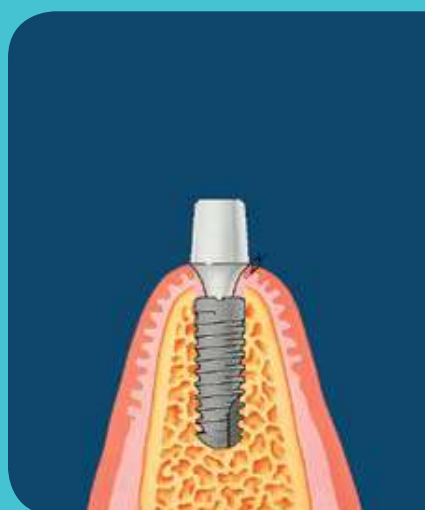
* Immediate loading is restricted to the anterior mandible, based on four intraforaminally placed implants, and not indicated for single, unsplinted implants. Patients must be subject for dental treatment with endosseous implants.



Option for Non-Parallel Implants

If the implants are not aligned in a parallel axis, the 15° pre-angled SynCone Abutments can be used to correct this non-parallelism (delayed loading procedures only).

4° and 6° paralleling pins can be used to check and align the axes of the abutments with the desired path of insertion.



Caution!

The denture must be fitted immediately after placement of the implants and abutments. The caps cannot be fixed into the denture using standard laboratory techniques (such as impressions or models).

Closing the Wound

Carefully suture the edges of the wound to prevent saliva and microbial infiltration.

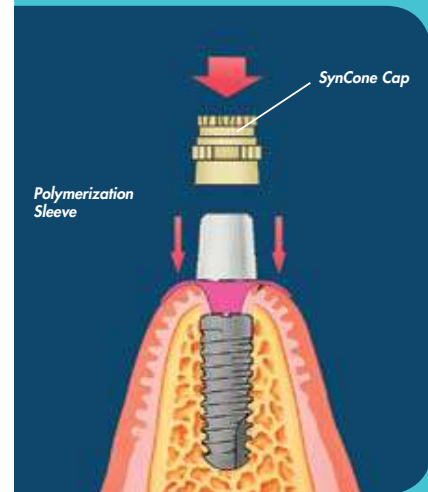
The contour of the SynCone Abutment's sulcus section allows the mucosa to form a tight seal around the implant. The edges of the wound adapt closely to the transgingival zone of the abutment, offering protection against irritation and preventing acrylic from flowing into the undercut area.

Placing the SynCone Cap

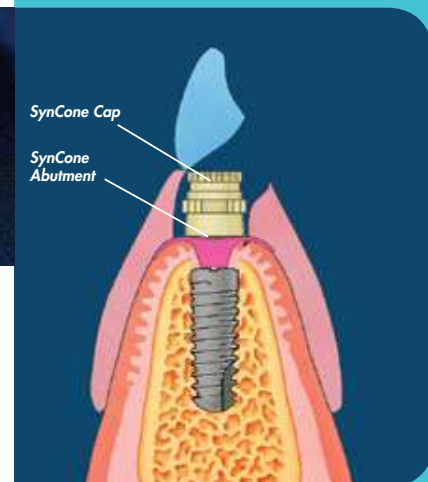
Disinfect the SynCone Cap and place it securely onto the SynCone Abutment.

Seat a flexible SynCone Polymerization Sleeve over each SynCone Abutment, allowing it to engage the abutment at its widest diameter. The sleeve will protect the sutures and prevent the cold-curing resin from seeping into the undercut sulcus region of the abutment.

Caution!
When placing SynCone Abutments and Caps in position, ensure that no sutures are trapped between the abutments and caps.



*Recommended Clearance Between SynCone Cap & Occlusal Plane = 5 mm
(See Page 3 for Details)*



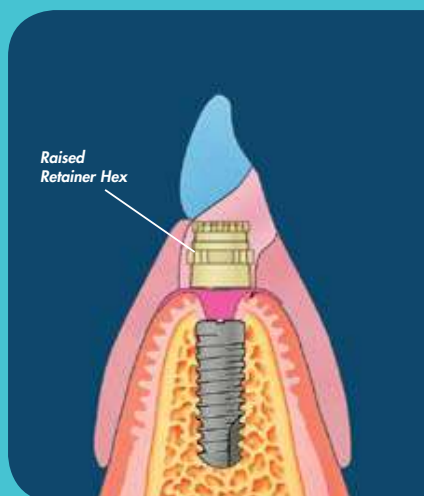
Preparing the Denture

The original denture can only be reused if it properly fits and functions prior to implantation. Implants cannot correct an inaccurate fit.

Cut openings into the denture wide enough to prevent interference with the SynCone Caps during denture seating. Use the drilling template as a guide.

Alternatively, an alginate impression can be taken of the implants, and a cast poured so that the denture can be relieved in the lab. This procedure is recommended for cases that have metal base dentures.

Ensure that minimal acrylic is trimmed from the denture.



*Recommended Clearance Between SynCone
Cap & Occlusal Plane = 5 mm
(See Page 3 for Details)*

Polymerization Phase

Make certain that the caps fit firmly before seating the denture. Using a syringe, completely envelope the SynCone Caps in viscous cold curing, bubble-free acrylic. Acrylic can also be painted on raised retention hex of the cap to ensure a mechanical lock.

Clinical Procedure:

Ask the patient to close the mouth gently, keep the teeth in complete contact, and only exert minimal pressure as the acrylic polymerizes.

Exerting excessive pressure may force the denture into the soft tissue, which would inhibit accurate seating. This inaccuracy will lead to a loss of friction retention between the SynCone Abutments and Caps.

Care must also be taken not to dislodge the denture while the acrylic is polymerizing, or the SynCone Caps could be displaced and the centric occlusion altered.

Stabilizing the denture by hand is also insufficient, as it may lead to changes in centric occlusion.



Fitting the Denture

Make sure that the acrylic has thoroughly cured. Remove the denture from the patient's mouth to trim and polish the freshly cured acrylic. Remove all traces of acrylic from the margins of the SynCone Caps.

While the patient is still anesthetized, verify that the occlusion and excursive movements are free of interferences.

Check the force required to remove the denture with the patient (i.e., patient should be able to remove the denture with hands and moderate force). Excessive force may damage the SynCone Caps and/or denture.

The SynCone Concept is only successful when the denture fits and occludes optimally, and the SynCone Abutments are parallel.

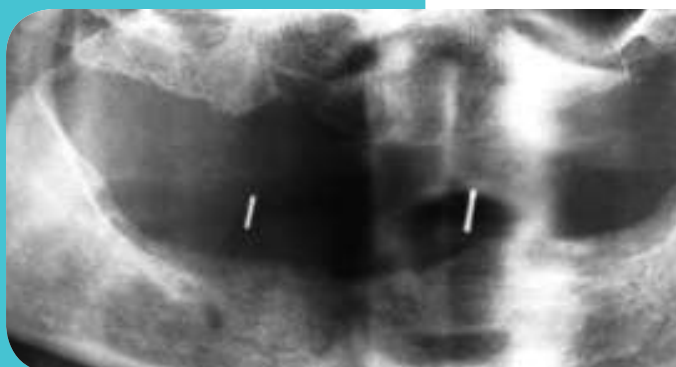
If necessary, reduce the peripheries to ensure a proper fit and complete seating of the SynCone Caps. Otherwise, sore spots or poor retention and/or poor stability may result.



Two-Year Postoperative Clinical Findings



Radiological Findings



June 07, 1999



Feb. 06, 2001

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SynCone Concept

Support You Can Count On

At DENTSPLY Tulsa Dental Specialties, we've built our business around supporting your needs. Your knowledgeable representative can answer any questions about the ANKYLOS SynCone Concept and help you with everything from product implementation and continuing education opportunities to patient education and complete practice building to optimize your clinical and business success.

Q: *How Do I Decide Whether the Current Bone Volume is Sufficient for an Implant Procedure with SynCone?*

A: In most cases, a panorex, or full-mouth radiograph, is sufficient to determine the available vertical bone height.

If a Tomogram or CT Scan is available, it can also be helpful in determining the available horizontal bone width as well as height. If any simultaneous augmentation is necessary, immediate loading* is not recommended.

Q: *How Long Will My Patient Have to Live Without Their Denture, and How Long Does the Implant Procedure Take?*

A: The patient doesn't have to live without their denture at all. When immediate loading* is an option, the patient's existing denture can be adapted to the implants and abutments at the time of implant placement. In many cases, the implants can be placed and the denture attached in a single appointment lasting two to three hours (on average).

Q: *When Can My Patients Resume a Normal Diet?*

A: Patients should not remove their newly inserted dentures for two weeks. During this time, the patient should adopt a soft diet and regularly clean the denture by antibiotic mouthwash. After three weeks, the patient can resume a more normal diet and can remove the denture to clean.

Q: *What Components are Needed for a SynCone Procedure?*

A: When utilizing the "Intermediate Restorative Technique", the strategy is simple: four ANKYLOS Implants, four prefabricated SynCone Abutments and SynCone Caps, four curing sleeves and polymerization material. When utilizing this chair-side technique, there are no laboratory steps and therefore no laboratory fees.

Q: *Does the Dentist Need to Produce a New Denture?*

A: Not when utilizing the "Intermediate Restorative Technique". With this technique, if the patient's existing denture is still functional and in good condition, it is adapted to the newly placed implants and abutments.

Postoperative Treatment – Immediate Loading*



Physician Advice for Patients

- Continuously wear the fixed denture for one week without removal.
- Then wear the denture for two consecutive three-day periods.
- Eat only soft foods for the first 14 days after surgery.
- During the fourteen day healing phase use anti-microbial mouthwash after meals, and use antibiotic prophylaxis for a week. (This will make up for the inability to perform normal dental hygiene during the healing phase.)

The denture is first removed after the continuous week of wear. The patient then wears the denture again for two consecutive three-day periods. After these three periods (one week and two three-day periods), the patient is instructed on how to maintain oral hygiene, care for the denture, and handle the denture (e.g. appropriate insertion and removal of denture). The patient can then follow normal eating habits.

After the Implants Heal

Regular recall examinations are required. The exam monitors atrophy and congruency between the denture base and SynCone Abutments/Caps. Problems can be discovered at early stages and appropriate corrective measures implemented.

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