LEGACY SYSTEM · BIODENT INC



SARGON DENTAL IMPLANTS

Sargon Immediate Load Implant *Restorative Manual & Product Catalog*

Standard (External Hexed) Implant

SARGON DENTAL IMPLANTS

Welcome to the Sargon Immediate Load Implant®

We appreciate your interest in this new major advancement in dental implantology. We believe that restorations on implants can, and should be, fabricated with virtually the same methods taught in dental schools for fixed restorations on natural tooth abutments. It should be noted that the traditional definition of "abutment" has been the "prepared tooth" ("prep") that anchored or held the restoration (retainer) in the case of a fixed partial denture ("bridge").

In the past, the word "abutment", as it pertained to implantology, described a large number of machined components of varying shapes and sizes that rarely resembled, nor functioned like, a traditional "prep". Often, dentists and dental technicians became overwhelmed and confused by all of these component parts that appeared so different from our traditional restorative techniques and esthetic standards.

The Sargon® restorative system utilizes restorative techniques that are already familiar to all dentists. We use a minimum of components with which the doctor and laboratory can design and fabricate custom anatomical abutments or "preps," both for provisionalization and for final restoration. We have all but eliminated the need for soft tissue retraction in most impressions where subgingival restoration margins are necessary. We have simplified the provisionalization techniques that are so important for the incremental loading of maturing bone and for the stabilization of the TMJs before making occlusal registrations.

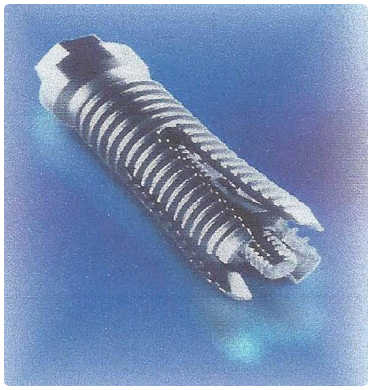
All of our products are manufactured in the United States under the highest quality FDA standards and the most modern methods for manufacturing precision tolerance surgical devices and instrumentation. Compliance to the strict guidelines of the Good Manufacturing Practices of the FDA is continuously being adhered to by our operations staff.

As you become familiar with the significant advantages of the Sargon Immediate Load Implant® System you will see the added benefits you can bring to your patients. We will be here supporting you and your staff in a harmonious, friendly manner.

Sargon Dental Implants® welcomes the opportunity to bring you into this new dimension of treatment capability.

Sargon Lazarof, DDS

President & C.E.O.
Inventor of the Immediate Load Implant System



SARGON

Implant Training Courses

Two day hands-on with live-patient training courses in both surgical placement and prosthetic restoration are offered on a regular basis at our company headquarters. Additionally, Sargon Implant mini-residency programs are offered through various continuing education institutes in the USA, Mexico, Japan, Europe, S. Korea, South America and Canada.

Our training courses are structured to emphasize the following sequence of therapy:

1. Patient evaluation, treatment planning, sequencing of therapy and the informed consent 'process'.
2. Wax-corrected mounted casts and surgical templates.
3. Laboratory fabricated and chairside provisional restorations.
4. Abutment selection, design and function.
5. Impressions and preliminary occlusal records.
6. Fixed provisionalization.
7. Final occlusal records.
8. Final restorations.
9. Recall and follow-up standards.
10. Educating patients on the value and advantages of implant therapy ("internal marketing").

Please contact our headquarters for our training course schedule.

Robert E. Garfield, DDS, FAGD, FACD, FICD
Fellow of the Academy of Osseointegration
Director of Education, Sargon Dental Implants.

Martin G. Robbins, CDT
Technical Consultant, Sargon Dental Implants.

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PRODUCT CATALOG

Product Catalog 01–08

LIMITED AVAILABILITY

Many components for this legacy system have been discontinued, and remaining inventory for restorations is limited. Items listed in the product catalog may no longer be available. Before planning a restoration, please email info@ultratooth.com or info@biodentinc.com with the catalog numbers of your preferred items to confirm what is available.

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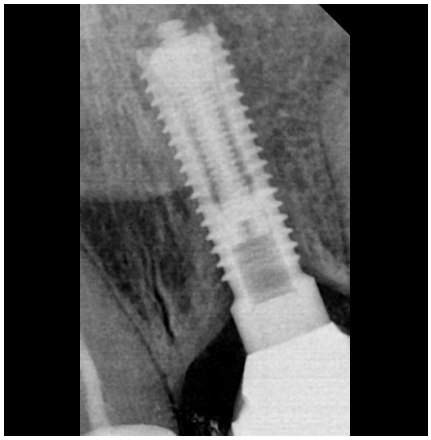
BEFORE YOU ORDER

Which system are you restoring?

Compare your patient's radiograph with the examples below to identify the implant system, then use the matching manual. Components are not interchangeable between systems.

☐ The main identifier is the top portion of the implant — where the abutment connects.



LEGACY

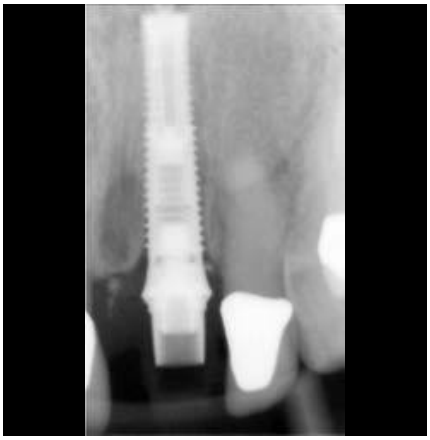
Sargon Immediate Load Standard (External Hex)



LOOK HERE · TOP OF IMPLANT

- **Top: external 1.25mm hex with a bevel at its base**, with a separate abutment screwed on top
- 3.8mm diameter · 10, 13, 16mm
- Not self-tapping

RESTORATIVE MANUAL & PRODUCT CATALOG 1100



LEGACY

Sargon Self-Tapping Internal Connection (I.C.)



LOOK HERE · TOP OF IMPLANT

- **Top: internal connection inside a 2mm collar** — the abutment seats down into the implant
- 4.3mm (Standard, Wide Profile) or 5.1mm (Wide Body)
- Self-tapping

SURGICAL & RESTORATIVE MANUAL · CATALOG 1200



CURRENT

Ultratooth by Biodent



LOOK HERE · TOP OF IMPLANT

- **Top: one-piece implant and abutment** — the top 3mm is the abutment, with no separate abutment interface
- Expanded pods visible at the apex
- 3.8mm Standard or 4.8mm Wide · 10, 13, 16mm

THE ULTRATOOTH HANDBOOK

NOT SURE?

Email a radiograph of the case to info@ultratooth.com or info@biodentinc.com and we'll help identify the system and confirm which components are available. Radiographs shown are representative examples, not actual size.

RESTORATIVE MANUAL

Basic Prosthetic Case Design Principles

PROPER IMPLANT LOADING

To avoid implant overloading, it is necessary to distribute forces over the greatest bone-to-implant surface area. This is accomplished by placing the longest implant body and the greatest number of implants that the available bone will accommodate. Long cantilevers and large inter-implant spaces should be avoided as they will increase the possibility of flexing forces. Bone grafts must be considered if alveolar ridge deficiencies exit. A fixed or natural opposing dentition, especially where habit patterns and bruxism exist, increases load and implant fatigue. The maintenance of osseointegration requires a harmonious balance between available bone, implant and load. **Occlusal plane orientation with proper anterior guidance at the correct vertical relation and condylar position is vital to reducing overload forces on implants. Pre-treatment evaluation is mandatory.**

With the impression posts on the mounted analog cast, evaluate the relationship of the long axis of the implant to the long axes of the adjacent teeth and the planned restoration (Fig. 35). An anatomic vacuum formed guide, made from a cast of a corrected wax-up of the mounted pre-operative models that were used to construct the surgical template for implant placement, is useful in determining the sizes and types of abutments.

PARTIALLY EDENTULOUS ARCH

For the partially endentulous arch, independent implant support of the restoration is recommended, when possible, without involving natural teeth.

Implants may fail because these biomechanical factors were not considered in the pre-treatment evaluation. Mounted casts, radiographs and patient histories are mandatory. The main biomechanical considerations are:

1. **Occlusal Plane Orientation (sectionally and complete)**
2. **Anterior Guidance**
3. **Vertical Relations (including crown/implant ratio)**
4. **CO - CR Discrepancies**

Basic Prosthetic Principles Design Principles Cont.

FULLY EDENTULOUS ARCH

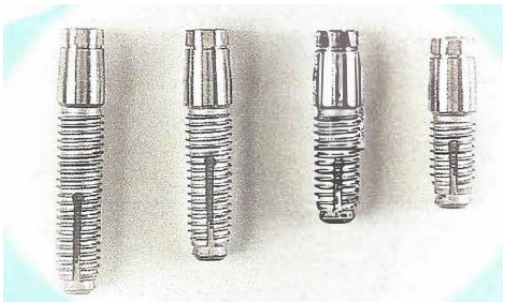
For treatment with a maxillary implant-supported, fixed-detachable restoration or overdenture, implants are placed from the premolar area on one quadrant of the maxillary arch to the premolar area on the other side of the arch. A fixed-detachable restoration usually requires 6 or 8 implants, while an overdenture usually requires 4-6 implants. Avoid excessive cantilevering of a fixed-detachable restoration. Extensive cantilevering may lead to loss of the prosthesis and the implants.

For treatment with a maxillary or mandibular soft tissue supported implant-retained overdenture, 4-6 implants are usually sufficient. Attachments for the Sargon Implant are available in kits (#7522, 2 mm height & #7524, 4 mm height). Other attachment systems can be used by incorporating custom laboratory procedures.*

Fully fixed restorations in a full-arch case may require maxillary sinus grafting and 10-12 implants.

ULTRATOOTH®

The Ultratooth is a one-piece implant and abutment combination. Unlike traditional two-part systems, there is no abutment/implant interface, thereby eliminating any potential leakage. The Ultratooth is ideal for single unit situations where abutment angulation correction is unnecessary. An extension component can be used when additional retention for a tooth restoration is desired (Ultratooth Extender #7045UT). Impression and restorative techniques are identical to those of the Immediate Fixed Abutment (IFA).



*Call our technical support director or e-mail us to request more information.

RESTORATIVE MANUAL

Immediate Provisionalization with the Immediate Fixed Abutment (IFA)


Fig. 1


Fig. 2

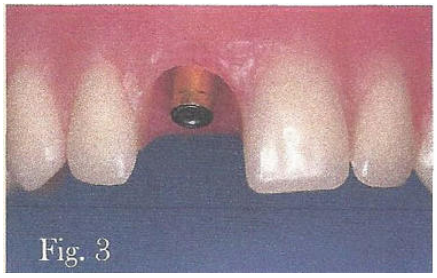


Fig. 3

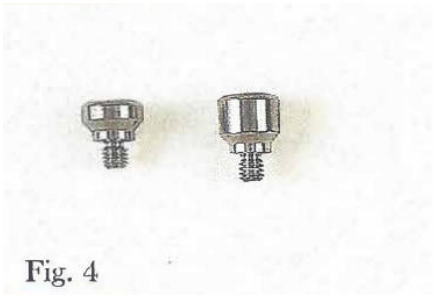


Fig. 4

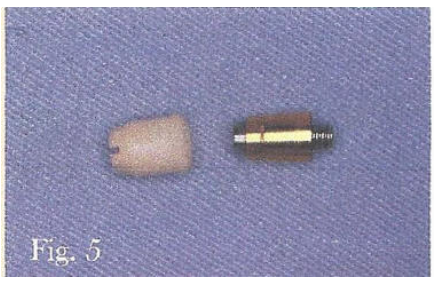


Fig. 5

Immediate provisionalization can be accomplished following implant placement when the supporting bone is of good quality and quantity (type I, II and frequently III) and the esthetic and/or psychological needs of the patient dictate.

The Sargon Immediate Fixed Abutment (IFA) is a two piece component (Fig. 1) designed with a double internal threading system. It can be carried to the mouth on the hex-driver. It comes in 3 lengths, short (#7041G), medium (#7042G) and long (#7040G). The shortest IFA (Fig. 1 right) is used on almost all fresh extraction socket cases that are to be immediately loaded. The abutment component is placed onto the hex of the implant and the screw is then tightened into the implant.

A custom acrylic resin crown or fixed prosthesis can be made from wax-corrected casts of the patient's dentition prior to implant placement. For single units, a properly selected acrylic resin denture tooth may be hollowed and used as an alternative (Fig. 2).

Seat the Sargon Immediate Fixed Abutment (#7041G) onto the implant as described above (Fig. 3).

If it is not possible to place a properly contoured provisional restoration at the same appointment as the tooth extraction and implant placement, the IFA Profile Healing Collars (#3944W or #3946W) must be placed on the implant (Fig. 4). This will help prevent the collapse of the anatomical form of the emergence profile in the soft tissue, until a provisional restoration with a proper parabolic subgingival form can be placed.

RESTORATIVE MANUAL

Immediate Provisionalization with the Immediate Fixed Abutment (IFA) cont...

The Acrylic Resin Treatment Crown Sleeve (#7066 for the short IFA or #7068 for the medium IFA) is incorporated into the provisional restoration for improved fit, stability and retention (Figs. 5 & 6).

To make a final composite resin crown, or a long-term provisional restoration, the titanium gold colored sleeve (#7060G) may be used (Fig 5, top).

Place the treatment crown sleeve over the IFA. Use the Screwdriver Assembly (#6005) to rotate the provisional sleeve and engage the hex coupling with the IFA abutment (Fig. 7).

Check and adjust the provisional restoration to fit into position over the IFA treatment crown sleeve (Fig. 8).

Place cold-cure acrylic resin within the provisional restoration. When the acrylic resin becomes doughy, place the provisional restoration over the immediate fixed abutment and treatment crown sleeve assembly on the implant, making certain to align the provisional restoration with the adjacent teeth. A minute amount of acrylic resin monomer on the doughy resin will facilitate bonding (Fig. 9).

IMPORTANT:

Proper emergence profile esthetics and form are dependent upon the implant being placed in a horizontal and vertical position that will allow this to occur.

As a rule, the top of the implant (hex) should ideally be 3-4mm apical to the cemento - enamel junctions of the adjacent teeth, or the lowest gingival line, and centered anatomically within the height of the alveolar crest of the fresh extraction socket.

CAUTION:

Do not use cement containing Eugenol.

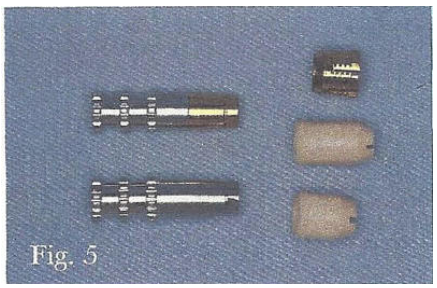


Fig. 5

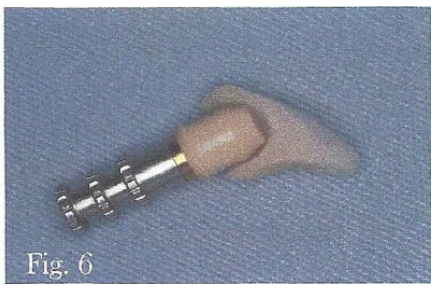


Fig. 6

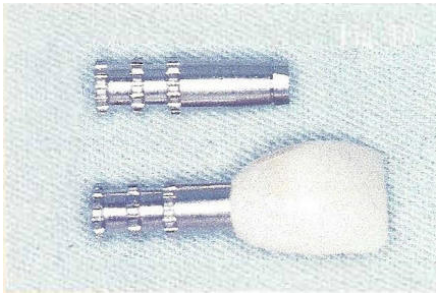

Fig. 7


Fig. 8

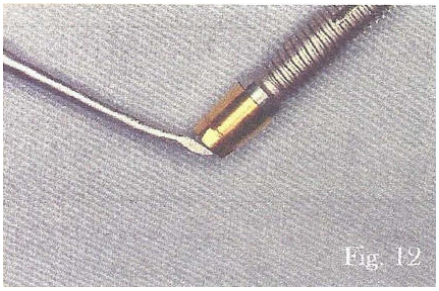
RESTORATIVE MANUAL

Immediate Provisionalization with the Immediate Fixed Abutment (IFA) cont...









After the acrylic resin has set, remove the provisional restoration assembly which now incorporates the treatment crown sleeve (Fig 9).

The provisional restoration may then be augmented, contoured, polished and adjusted as necessary to establish a natural anatomic emergence profile (Fig. 10). This is done with the provisional restoration assembly in place on an IFA Analog (#7306ST-1) to protect the internal surface from acrylic resin additions (Fig. 10).

Removal of the Provisional Restoration

Provisional restorations must often be removed for a variety of reasons. The three-week "Sargon-post-placement-stability-testing-protocol" sometimes requires that the provisional restoration be removed with minimal traumatic force on the implant. This is easily accomplished by placing a small horizontal channel in the lingual surface of the provisional restoration at the level of incisal/occlusal end of the IFA abutment (Fig. 11). The provisional restoration is removed by placing a "spearpoint" instrument through this channel and engaging the incisal/occlusal end of the IFA abutment in a level action (Figs. 12 & 13). The operator's thumb should be placed against the incisal/occlusal surface of the restoration for a stabilizing effect during this procedure.

With proper implant placement, the incisal/occlusal end of the IFA (gold colored portion of the IFA medium and long) should be level with, or only slightly above, the soft tissue height in fresh extraction socket cases. This will allow the "removal channel" to be in the cingulum to mid-cervical region. A similar design is used with final restorations to facilitate removal after cementation, should it be necessary.

RESTORATIVE MANUAL

Immediate Provisionalization with the Immediate Fixed Abutment (IFA) cont...

The use of the Sargon natural anatomic profile concept allows the soft tissue to heal to the desired emergence profile . The provisional restoration will serve as an emergence profile healing abutment (Figs. 10, 11 & 14). The gold color of the abutment will ensure a natural color effect to the overlying soft tissues.

Anti-rotation is vital with single tooth restorations.

INDICATIONS FOR USING THE IFA

All provisional restorations on immediate load cases and most single unit situations, that are less than a 20 degree angulation and have proper implant positioning, may use the IFA.

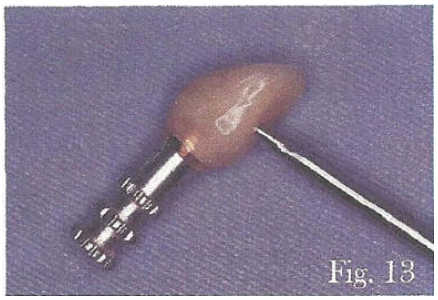


Fig. 13


Fig. 14

RESTORATIVE MANUAL

Single Tooth Soft-Cemented Restorations Using the Immediate Fixed Abutment (IFA) as a final abutment

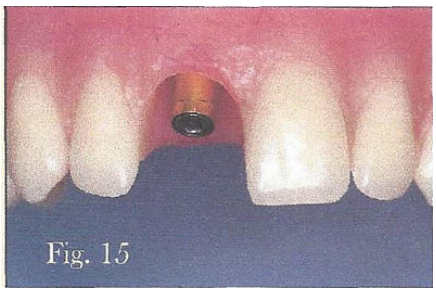


Fig. 15

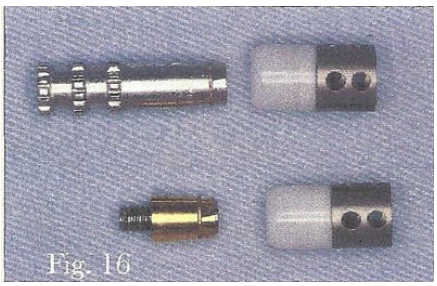


Fig. 16

If the Immediate Fixed Abutment (#7041G) (Fig. 15) is located in a position that will allow an adequate and uncompromised final restoration to be made, its position can be transferred by an impression to an analog cast, using the IFA Transfer Sleeve (#7050) and an IFA Analog (#7306ST-1) (Figs. 16, 17, 18, 19).

If the position of the IFA abutment is not favorable (regardless of its success with the provisional restoration), then an implant-level impression must be made using the implant Impression Post (#7011 or #7012) and a custom (or customized) abutment and crown fabricated. This process is described on page 13 of this manual beginning with (Fig. 30).

> **All abutment screws must be sealed using silicone or other sealers at the time of the final placement of the abutments, when their removal and replacement are no longer necessary.**

RESTORATIVE MANUAL

Single Tooth Soft-Cemented Restorations Using the Immediate Fixed Abutment (IFA) as a final abutment cont...

1 After the soft tissue healing is complete, and the treatment plan permits, remove the provisional restoration and place the IFA Transfer Sleeve (#7050) over the abutment, making certain that its hex is fully engaged (Fig. 17). Make an arch impression using a heavy-body impression material, "picking up" the transfer sleeve within the impression (Fig. 18). Syringing into the sleeve may help facilitate the securing of the sleeve within the impression material.

2 Seat the analog into the master (arch) impression which incorporates the transfer sleeve. Lightly coat this analog-die assembly with a lubricant to facilitate its placement into the master impression (Fig. 19).

3 Before pouring this cast, block out the cervical region of the positioned IFA analog with gingival simulation material (Fig. 20). [Note: Wax can be added to the interface region of the IFA transfer sleeve-analog assembly before placing the gingival simulation material (Fig. 19a). This will improve the cervicular space when fabricating the restoration. The wax is removed with boiling water after the stone cast has set (Fig. 21).]

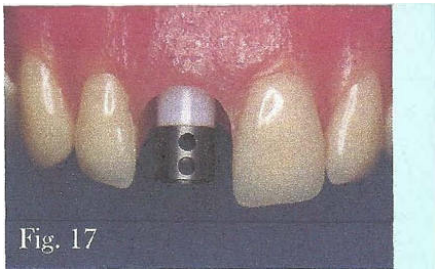


Fig. 17


Fig. 18


Fig. 19

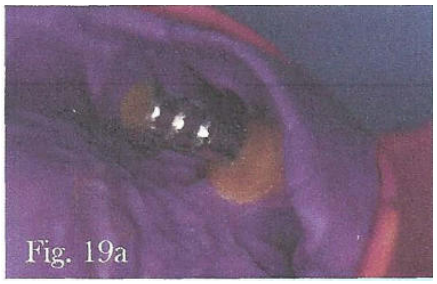


Fig. 19a


Fig. 20

Single Tooth Soft-Cemented Restorations Using the Immediate Fixed Abutment (IFA) as a final abutment cont...

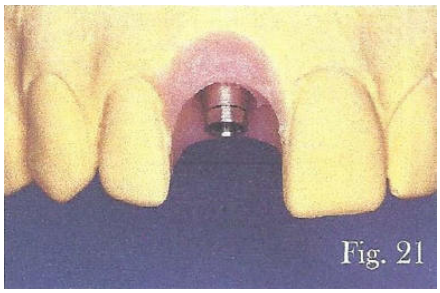


Fig. 21

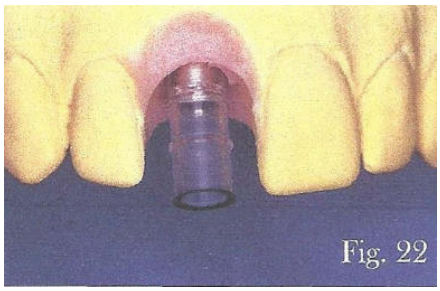


Fig. 22

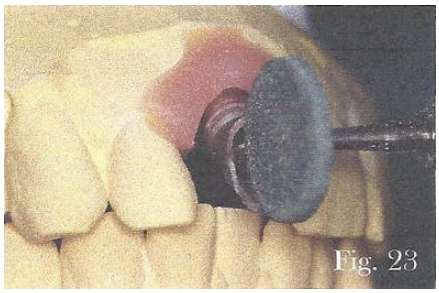


Fig. 23

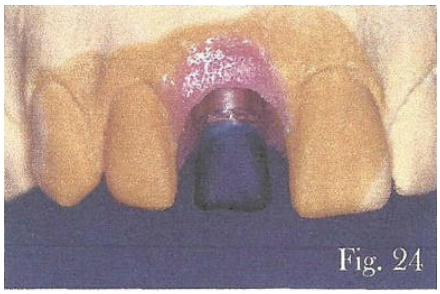


Fig. 24

4 Pour a master cast for crown fabrication. Care must be taken in separating the cast from the impression. Separate the impression from the cast in the long axis of the IFA abutment (Fig. 21).

This direction should be marked on the outside of the impression tray before pouring the cast.

5 After mounting the master cast, traditional crown and bridge laboratory techniques may be followed utilizing an IFA Waxing Sleeve (#7230) (Fig. 22). This acrylic resin waxing sleeve is prepared (Fig. 23).

NOTE:
It will not be necessary to cut and pin a die from this model. A separate metal IFA Analog (#7306 ST-1) can be used as a hand-held die for fin waxing and/or porcelain application .

IFA Lab Procedures

6 The wax pattern is developed on the waxing sleeve and master cast (Fig. 24).

7 The wax pattern for the PFM coping is made narrow in the center, where porcelain translucency is necessary, and wide in the incisal region where porcelain strength is necessary to resist fracture. It is hand-held on another IFA analog for these refinement procedures after it is "lifted" off of the master cast and analog “prep” (Fig. 25).

Single Tooth Soft-Cemented Restorations Using the Immediate Fixed Abutment (IFA) as a final abutment cont.

For esthetic reasons, it sometimes becomes necessary to extend the porcelain all the way to the abutment-implant interface. This is accomplished by substituting an actual IFA abutment connected to an Implant Analog (#7305S) for the hand-held standard IFA analog, and extending the wax pattern further apically to the abutment/implant interface, if necessary for esthetic reasons (Fig. 26).

8 The finished casting on the second IFA analog die (Fig. 27).

9 The finished PFM casting on the master cast is ready for porcelain application (Fig. 28).

10 The porcelain is applied and finished (Fig. 29).


Fig. 25

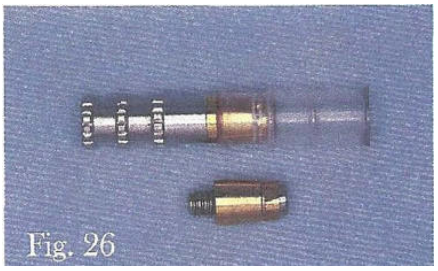
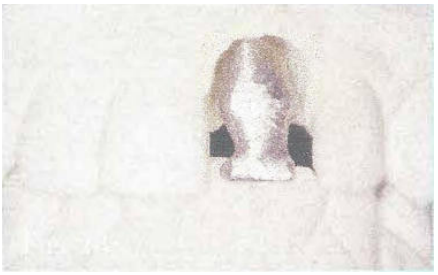
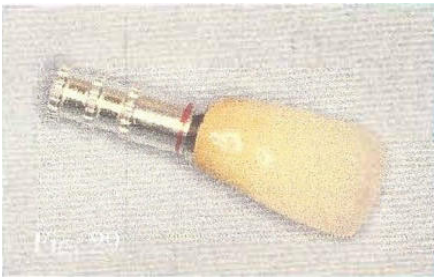


Fig. 26


Fig. 27





RESTORATIVE MANUAL

What this method accomplishes:

Immediate implant placement and provisionalization following the extraction of a hopeless tooth in an esthetically critical area of the mouth, when bone conditions are favorable, is considered an ideal treatment. This preserves the original emergence profile and papillary anatomy and prevents degenerative remodeling of the alveolar region. Bone grafting and barrier membranes are not recommended when immediate loading is to be done, as they cause inflammation. Normally, fresh extraction socket "diameter-gaps" will fill with new bone naturally.

The immediate fixed abutment (IFA) may be used to retain a provisional restoration and establish realistic expectations for the patient (and the doctor), before the laboratory fabricates the final prosthesis. This ensures that the proper tissue health and contour (emergence profile) is maintained.

The gold color of the components assists in giving a natural appearance to the overlying soft tissue, unlike the effect of metallic colored components.

RESTORATIVE MANUAL

Multiple Soft-Cemented Restorations using the IFA

The same procedures as described on the previous pages may be used for multiple (up to 2-3 abutments) implant supported restorations. Visualizing the Sargon implant as a root form, the treatment planning should incorporate sound restorative principles taught in prosthetic dentistry. ***Implants should never be expected to perform a task that natural teeth cannot perform (or have failed to perform). Natural tooth roots fail slowly when overloaded. Implants will fail quickly under these conditions. Therefore, distribute the occlusal load over more, rather than less, implants.***

For multiple units, the implants should be treated as independent root forms or anchors while the abutments act as “preparations” for traditionally cemented or soft-cemented restorations.

> **Implants should never be expected to perform a task that natural teeth could not perform under the existing oral conditions. It may be necessary to modify and improve any deficient oral/occlusal conditions. Systematic and meticulous evaluation and treatment planning are mandatory, if success is to be achieved.**

NOTES

RESTORATIVE MANUAL

Procedures for restorations that do not use the IFA as the final abutment

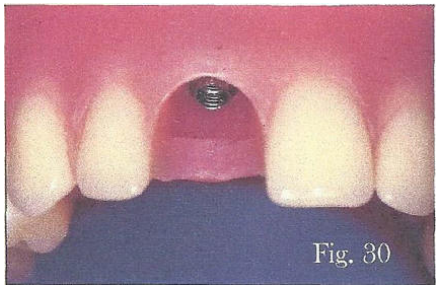


Fig. 30


Fig. 31


Fig. 32

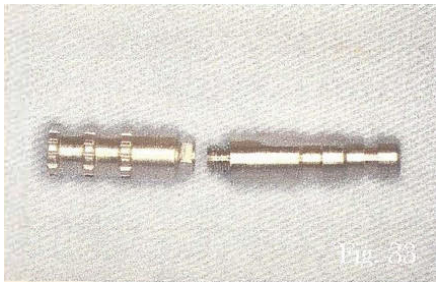


Fig. 33

Allow ample time for soft-tissue healing, stabilization and maturation before starting the final restoration.

All single-unit restorations must be anti-rotationally connected to the implant. Multi-unit restorations could be anti-rotationally connected to the implant, depending upon various factors in the design of certain restorations.

Screw the Hexed Impression Post (#7011) onto the implant (Figs. 30 & 31). A radiograph, properly positioned, ensures that the impression post is fully seated on the implant. Make the impression, being certain to fully record the keyed area on the impression post (Fig. 32).

Remove the impression and unscrew the impression post from the implant in the patient's mouth. Screw the impression post tightly onto a Sargon Implant Analog (#7305S) (Fig. 33).

> ***Indications for Custom Abutments:*** ***Multiple unit restorations and severely angulated or incorrectly positioned implants.***

RESTORATIVE MANUAL

Procedures for restorations that do not use the IFA as the final abutment cont...

Insert the impression post and analog assembly back into the impression, making certain that it is positioned in the impression accurately (Fig. 34). The laboratory will place gingival simulation material around the analog-impression post assembly in the impression and pour a cast (Fig. 35). The laboratory then has the choice of using prefabricated and "prepable" titanium abutments, (#7015, #7025, #7126) (Fig. 36), or custom cast abutments utilizing the Sargon Hexed Waxing Sleeves (#7220 and #7225) with their Abutment Screws (#7160) (Fig. 37).

The Sargon Hexed Waxing Sleeves (#7220 and #7225) can also be used to fabricate a "UCLA" crown or bridge, where the crown screws directly onto the implant. The remaining screw-access channel is usually filled with composite after the restoration is placed (Fig. 38).

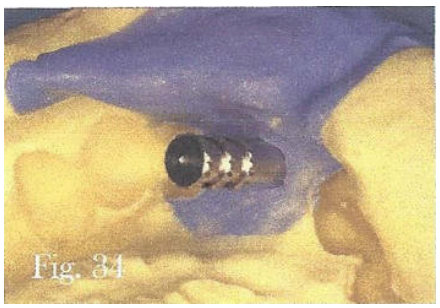


Fig. 34

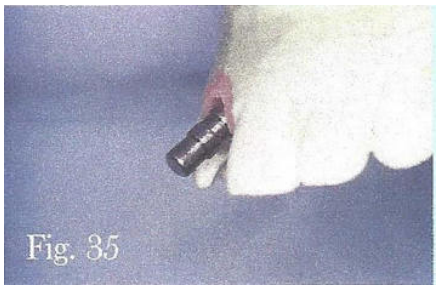


Fig. 35


Fig. 36


Fig. 37

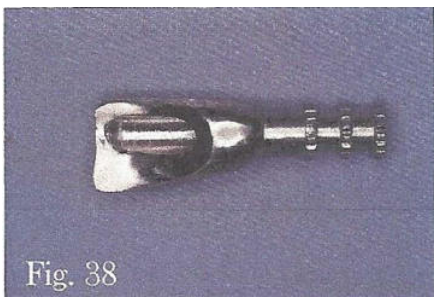


Fig. 38

RESTORATIVE MANUAL

Procedures for restorations that do not use the IFA as the final abutment cont...

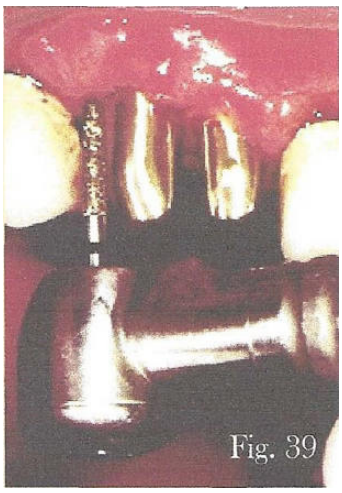


Fig. 39

If angulation or axial corrections are necessary beyond the modification capabilities of the prepable Fixed Abutment (#7126), a Sargon 15 or 25 degree Angled Abutment (#7015 and #7025) may be used (Fig. 36), (or a custom abutment must be fabricated). Custom abutments using the Sargon Waxing Sleeves (#7220 and #7225) and Abutment Screw (#7160) (Fig. 37) allow the laboratory to fabricate restorations with natural cervical emergence form and sub-gingival restorative ("prep") margins which may be verified and/or modified in the mouth, if necessary, due to soft tissue changes, etc., and returned to the laboratory for refinement and stone die duplication in esthetically demanding situations (Fig. 39).

Impression Procedures For Complex Restorations that use Customized Abutments

Frequently, these adjusted or cast custom abutments must be placed into the mouth to support a laboratory-made fixed-provisional restoration. Impressions of these abutments are made in the laboratory, and casts and stone dies of them are poured and trimmed. These dies will later be used to wax-up the margins of the final restoration. A passive fitting fixed provisional restoration is made from a duplicate cast of the arch of abutments in the laboratory on the original fixture/implant analog cast. Later on, a new impression of these abutments (in the mouth) will be made and casts will be poured and mounted for final restoration fabrication. **This new impression and cast will not record margins but will eliminate all positional errors and discrepancies that have accumulated to this stage. The dies for final marginal wax-up were previously made in the laboratory from impressions of the abutments, eliminating the need for local anesthesia and gingival retraction cords with subgingival restoration margins.** (Refer to the following section on custom abutment design).

Procedures for restorations that do not use the IFA as the final abutment cont...

It is important to create anatomically correct fixed provisional restorations in function on prepared abutments for the purpose of TMJ stabilization, incremental loading, vertical relation, soft tissue management, determination of the psychological profile of the patient and the expectation management of the patient.

The following procedures permit the final restorations to be fabricated in the laboratory on stone casts and duplicate stone dies of the abutments, as is done in traditional fixed prosthodontics. (The actual abutments themselves will already be in the mouth supporting the provisional restorations):

Determine the esthetic requirements of the restoration. This will aid in abutment selection. Custom abutments may be used in all cases, as they provide the most accurate accommodation to the final restoration and incorporate the familiar traditional crown and bridge laboratory procedures.

If severe angulation or axial correction is not necessary and esthetics permit, the Sargon Fixed Abutment (#7126) may be used. These abutments may be modified ("prepped") in the laboratory according to necessity and duplicated in die stone (Fig. 40) (Refer to the section on abutment design and die fabrication starting on page 21).

Note: When doing multiple unit restorations always return the impression post and analog assemblies to their respective positions within the impression, being certain to match the keyed areas together. Respective position replacement of impression posts into impressions will be necessary in multiple unit restorations and splinted units whenever anti-rotational functions are necessary, such as with angulation and axially correcting custom abutments and copings. The use of Impression Post/ Pick-Up (#7012) eliminates this requirement, since it always remains fixed within the impression tray.


Fig. 40

RESTORATIVE MANUAL

Custom Abutment Design in the Laboratory

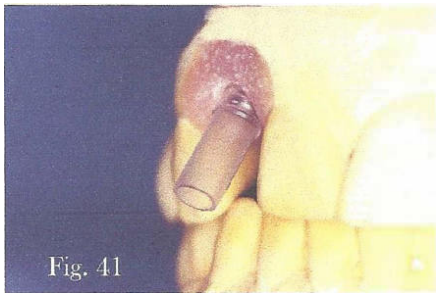


Fig. 41

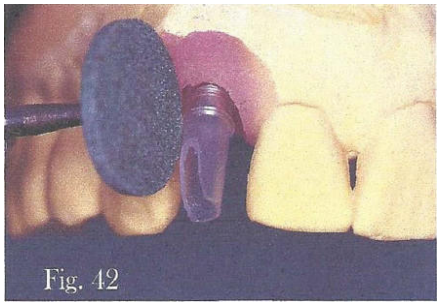


Fig. 42

Custom abutments allow the dentist and laboratory to create their own crown and bridge "preparations." Features such as cervical anatomy, gingival margin placement, emergence profile, angulation and axial corrections, length and gold metal color for esthetic soft-tissue compatibility are all possible with this system. The basic component for the custom abutment is the Sargon Hexed Waxing Sleeve (#7220 or #7225) and Abutment Screw (#7160) (Fig. 36).

1 Screw the Hexed Waxing Sleeve (#7220 or #7225) onto the analog in the mounted master cast (Fig. 41).

2 With a mounted stone, reduce or adjust the length of the waxing sleeve, as is done when preparing a tooth for a crown (Fig. 42), so that it fits within, and does not touch, the inside surfaces of a transparent vacuum formed anatomic guide, which was made from a cast of the corrected wax-up (or pre-extraction model).

NOTE:
Waxing Sleeve #7225 incorporates a machined high-fusing gold hex coupling insert. All precious and semi-precious bake-on alloys and yellow casting golds are compatible with this sleeve.

Custom Abutment Design in the Laboratory cont...

3 In wax or pattern resin, create the abutment features determined by the anatomic guide (if one is used). This will be the same concept as preparing a tooth for a crown restoration (Fig. 43). The waxing sleeve pattern can be unscrewed from the cast and placed on another hand-held Implant Analog (#7305S) for refining. It is then returned to the cast for the final check of its contour before casting in yellow type IV gold (Figs. 44 & 45).

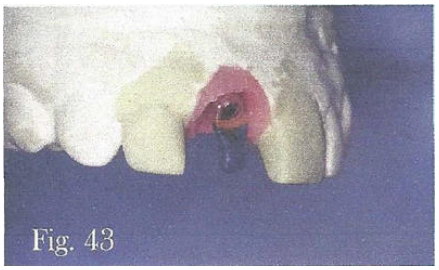


Fig. 43

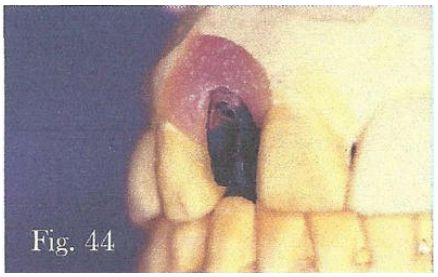


Fig. 44


Fig. 45

The raw unfinished type IV gold casting of this abutment must be fitted, refined and finished in the hex area very carefully. All artifacts, positive imperfections and tiny bubbles must be removed with suitable instruments under magnification (Fig. 46). The surface of the cast hex area is then sprayed with air-abrasive 25 micron aluminum oxide powder to remove any shiny areas. A Sargon stainless steel Hexed Implant Analog (#7305S) is used to frictionally mark any tight or binding 'points' on the abrasive-sprayed gold hex area (Figs. 46 & 47).

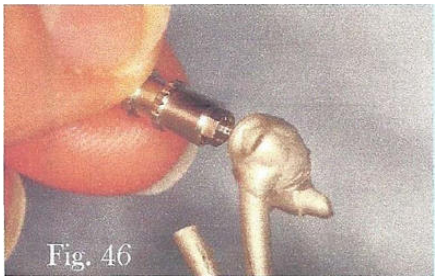


Fig. 46


Fig. 47

Custom Abutment Design in the Laboratory cont...


Fig. 48

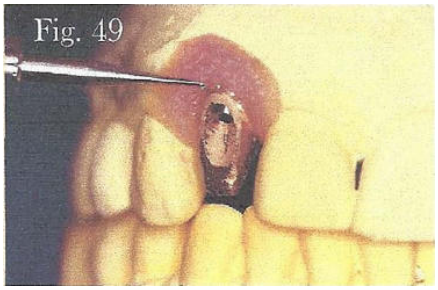


Fig. 49

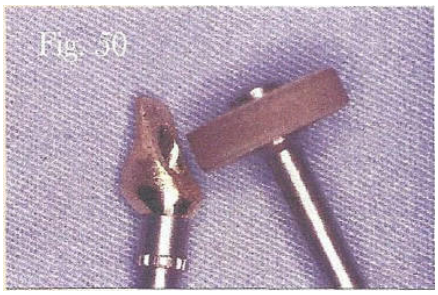


Fig. 50

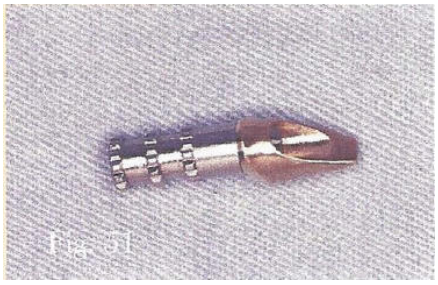


Fig. 51

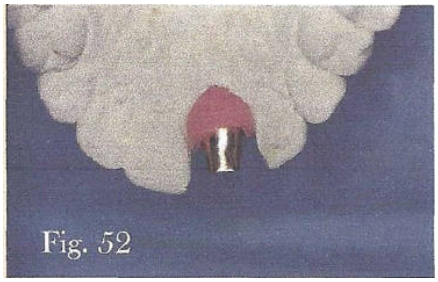


Fig. 52

This analog, which is much harder than type IV gold, and will leave shiny marks on the gold indicating areas to be relieved in the finishing procedures (Fig. 48). The above steps must be repeated until the hexed custom cast abutment fits perfectly against the hand-held stainless steel analog "die."

This custom abutment can be verified and corrected if necessary in the mouth, in the unrefined casting stage, with respect to gingival margin placement and peri-implant relations (Fig. 39).

The casting is marked at the Gingival Line (Fig. 49). The restorative margin will be created apical to this line (Fig. 50). The emergence region, apical to the restorative margin, is finished to a high lustre. The restorative "prep" region, occlusal to the restorative margin, is given a satin finish (Fig. 51). This custom abutment is now treated as though it were a crown and bridge model with a removable die (Fig. 53). A crown coping is waxed and cast exactly in the same manner as traditional techniques are done on natural tooth preparations (Fig. 54).

The lingual crown removal channel is first created in the PFM coping pattern with a hand-held warm #4 round bur. After this coping is cast and finished, the lingual channel is used as a template to drill the 1mm deep recess into the custom abutment (Fig. 55).

Custom Abutment Design in the Laboratory cont...

Some treatment plans call for **fixed provisionalization**, especially when occlusal reconstruction and precise esthetics are required. If custom made or customized abutments are used in these types of cases (as they usually are), they must be placed into the patient's mouth to support the fixed provisional restorations. Because these abutments are sealed and tightened into place in the patient's mouth, they cannot be used as "dies" for making wax pattern refinements for the final restorations. Therefore, copies of these abutments are made in die stone in the laboratory, before they are delivered to the doctor and placed into the mouth for the last time.

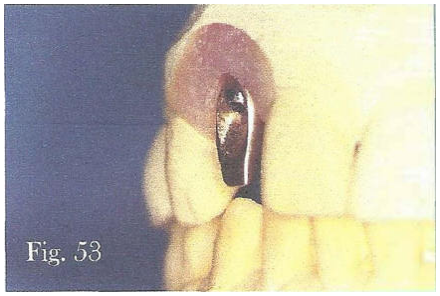


Fig. 53

When it is time to make the final restorations, the provisional restorations are removed, new occlusal records are made and full-arch impressions are made of the abutments and any natural tooth preparations that may be present. However, the impressions of the abutments will not require gingival retraction, since their duplicate stone dies have been made beforehand in the laboratory.

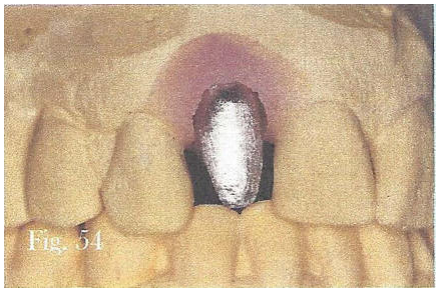


Fig. 54

Some custom abutments may appear symmetrical to the eye, making it difficult to identify the facial from the lingual. For this reason, incorporating an axial orientation groove on the mesial surface in the occlusal 2/3 of the preparation area is recommended. This mesial-axial groove will also aid in 'keying' the wax pattern to the die. This groove is cut into the casting with a #7802 FG finishing bur. A #1/2 round carbide bur, held in the straight handpiece, is used to engrave the tooth position number onto the custom abutment after final finishing. The emergence region of the custom abutment is given a high lustre finish. The preparation region is given a satin finish.

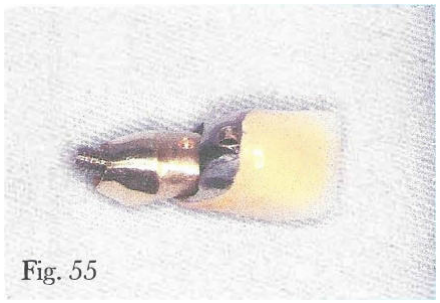


Fig. 55

Custom Abutment Design in the Laboratory cont...

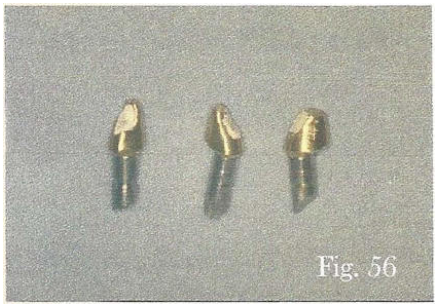


Fig. 56


Fig. 57

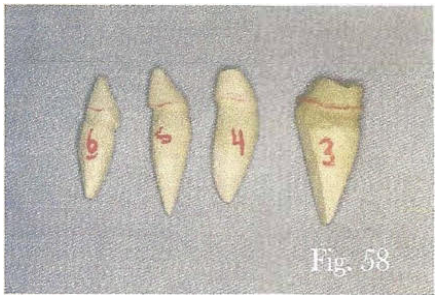


Fig. 58

"Die" impressions of all of these selected abutments are made in the laboratory, eliminating the need for local anesthesia and retraction cord in the mouth. This is done by attaching an analog to the orally verified, finalized and finished abutment, then sealing the screw access opening with wax, silicone or other suitable material (Fig. 56), and plunging it incisally into a dappen dish loaded with impression material (Fig. 57).

> **NOTE:**
> If necessary, verify the abutment in the mouth, particularly noting the gingival margin placement for esthetics, etc., before making the stone die from the dappen-dish impression. Refine and polish the abutment prior to making the dappen-dish die impression (Fig. 39).

An impression of up to four abutments can be done with a single dappen-dish load. After setting, the abutments are withdrawn from the impression and the impression is poured. The set stone is sectioned, trimmed and numbered into individual dies for final wax pattern refinement (Fig. 58).

> **At this stage, all customized abutments are seated onto the analog cast. The screw-access channels are again sealed with wax, etc., and this cast is duplicated and used to make provisional restorations in the laboratory. These provisionals are internally relieved to create passivity. All abutments and provisional restorations are now sent to the doctor to be placed into the mouth.**

Custom Abutment Design in the Laboratory cont...

After the dies are fabricated, the abutments (Fig. 59) are placed into the patient's mouth and permanently sealed with a silicone material (Figs. 60 & 61). The provisional restorations are then placed.

Unless Emergence Profile Healing Collars (#3944W and #3946W) have been used, some custom abutments may not screw into place onto the implant, due to the remarkable resistance to stretching by dense and fibrous gingival tissues. This will be especially true with custom anatomical emergence profile forms that are not shaped like the cylindrical healing collars that the healing soft tissues may have been modeled to. In these situations, local anesthesia is used and relieving incisions may be made in the soft tissues in non-esthetic areas at right angles to the cervical margin. Healing and remodeling are usually uneventful.

> **Note: A silicone sealing material is recommended to reduce the potential microleakage and gingival irritation at the microgap of the abutment/implant interface.**

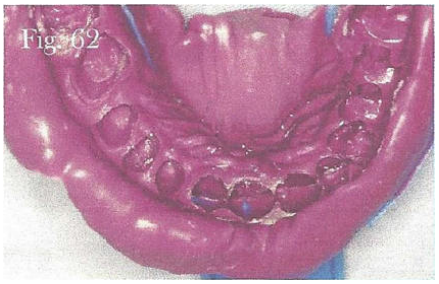
After all soft-tissue remodeling has occurred, a supragingival impression of the arch is taken and the traditional laboratory procedures of crown and bridge are followed (Fig. 62). **This master impression corrects for all positional discrepancies and distortions that may have accumulated in all of the technical manipulations up to this point.**

If an acrylic resin, or any type of custom impression tray is used, it should be pre-warped by allowing it to dry-out for at least 24 hours before the impression is taken. Warping after the impression is taken, results in a distorted impression. This problem is reduced by using metal trays.









Fabrication of Restorations by the Laboratory


Fig. 63

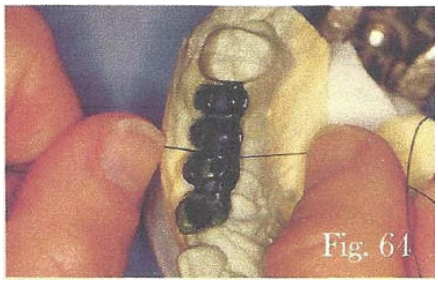
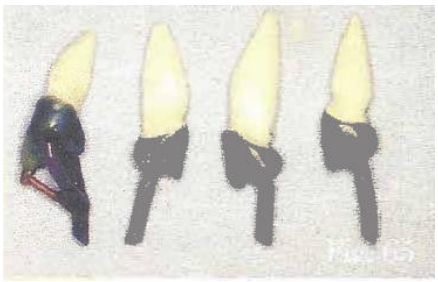


Fig. 64



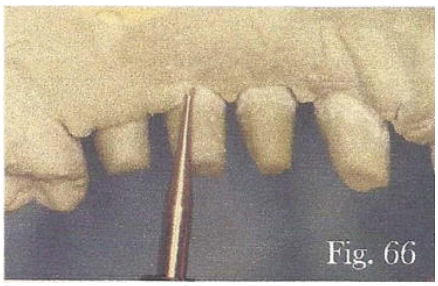


Fig. 66


Fig. 67

Wax patterns can now be created on the mounted master model (Fig. 63) in one solid continuous form (Fig. 64), then separated interproximally by cutting with thread. These individual patterns are carefully lifted off of the cast by lightly gripping them with a sheet of rubber dam material.

The wax patterns are carefully fitted to the stone dies (abutment replicas) (Fig. 58) and completed with respect to contour and margin refinements (Fig. 65).

> **The final wax patterns should not be replaced onto the master cast until the cervical-gingival region of each "prep" has been ditched with a straight handpiece #4 round bur and carved, so that the delicate wax margins will not be damaged by compression (Fig. 66).**

Wax patterns, after marginal refinement, are generally replaced onto the master model to evaluate occlusion, contour, alignment, etc. before investing and casting (Fig. 67). Gingival "ditching" is necessary because the master cast impression did not necessarily record subgingival margins.. The master cast is easily duplicated in the laboratory. This duplicate cast and the vacuum formed guide (non acrylic resin adhering sheet material) are used to fabricate quality provisional restorations (Refer to the preceding section).

Fabrication of Restorations by the Laboratory cont...

Note: Multiple splinted units made on a master cast from an abutment impression can be indexed for soldering either on the master cast or directly in the mouth, depending on operator preference and clinical conditions (Fig. 68). Custom abutments, placed into the mouth, followed by a master cast impression, as shown in this section, will be free of all positional errors and distortions.


Fig. 68

The porcelain is applied using traditional techniques (Fig. 69).

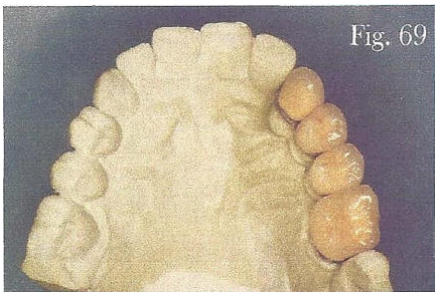


Fig. 69

SARGON DENTAL IMPLANTS

Welcome to the exciting realm of implant dentistry with the Sargon® Dental Implant.

It is our mission to improve, innovate and enrich the field of implant dentistry.

It is our promise to provide you and your patients with the highest quality of manufacturing standards and service available.

It is our goal to offer you a new dimension of treatment capabilities.

LIMITED AVAILABILITY

Many components for this legacy system have been discontinued, and remaining inventory for restorations is limited. Items listed in this catalog may no longer be available. Before planning a restoration, please email info@ultratooth.com or info@biodentinc.com with the catalog numbers of your preferred items to confirm what is available.

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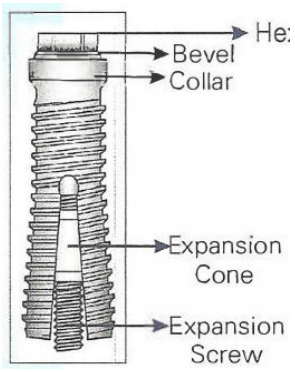
SURGICAL COMPONENTS

Implants

Sargon Dental Implants are precision machined from titanium alloy (90Ti 6Al 4V) designed and manufactured to meet or exceed all industry standards. The 1.25mm external hex has a bevel at its base for secure and accurate abutment bracing, centering and screw stability/protection.



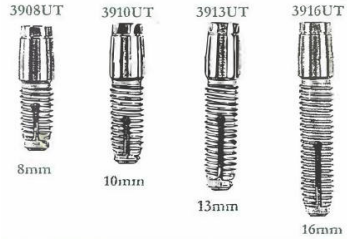
> **NOTE**
> Remember to order prosthetic components when ordering implants.

The Sargon Immediate Load Implant is available in custom lengths (11mm, 12mm, 14mm, and 15mm).

THE SARGON IMMEDIATE LOAD IMPLANT®



ULTRATOOTH®



CATALOG NO.	DESCRIPTION	DIAMETER	HEX BEVELED HEIGHT	COLLAR WIDTH
3910S	10 mm Sargon Implant	3.8 mm	1.25 mm	4.1
3913S	13 mm Sargon Implant	3.8 mm	1.25 mm	4.1
3916S	16 mm Sargon Implant	3.8 mm	1.25 mm	4.1
3908UT	8 mm Ultratooth	3.8 mm		4.1
3910UT	10 mm Ultratooth	3.8 mm		4.1
3913UT	13 mm Ultratooth	3.8 mm		4.1
3916UT	16 mm Ultratooth	3.8 mm		4.1

SURGICAL COMPONENTS

Healing Abutments

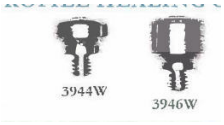
CATALOG NO.	COLLAR HEIGHT	WIDTH
3942*	2 mm	4.1mm
3944	4 mm	4.1mm
3946	6 mm	4.1mm
3944W	4 mm	6 mm
3946W	6 mm	6 mm

*May be used as cover screws for delayed loading cases.

STANDARD

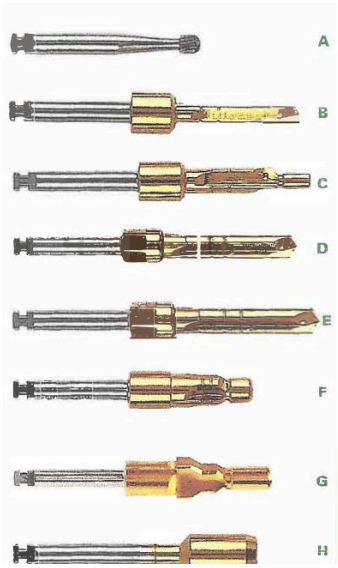


IFA PROFILE HEALING COLLAR



SURGICAL COMPONENTS CONT...

Surgical Drills



Depth indicators are marked on the drills for accurate and precise placement. Additional features include a protective titanium nitride coating (Gold Color), internal irrigation and tri-spade design for easier removal and harvesting of bone.

	CATALOG NO.	DESCRIPTION	DIAMETER	LENGTH
(A)	**4010**	Rosset Drill	2.5 mm	
(B)	**4020**	Pilot Drill	2 mm	13 mm
(C)	**4030**	Guide Drill	3 mm	
(D)	**4040**	Final Drill	3.5 mm	16 mm
(E)	**4042**	Final Drill-Long	3.5 mm	20 mm
(F)	**4050**	Counterbore Drill	4.1 mm	
(G)	**4050W**	IFA Profile Counter Bore Drill	6.26 mm	
(H)	**4060**	Tissue Punch	4 mm	



FINAL DRILL
Depth indicators correspond to the length of the selected implant.
16mm · 13mm · 10mm · 8mm
Measurements taken from this line

SURGICAL COMPONENTS CONT…

Surgical Taps



Depth indicators are marked on the taps for accurate and precise placement and they feature a protective titanium nitride coating (Gold Color). Sargon Implants are not self-tapping. Tapping is required prior to implant placement. It is recommended that all tapping be performed by hand unless the surgeon is experienced with motor driven taps.

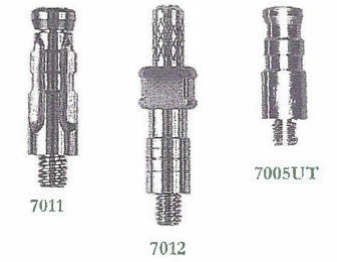
	CATALOG NO.	DESCRIPTION	DIAMETER	LENGTH
(A)	**5010H***	Pilot Tap	3.8 mm	17 mm
(B)	**5030H***	Final Tap-Short	3.8 mm	17 mm
(C)	**5040H***	Final Tap-Long	3.8 mm	23 mm

*** May be used with Hand Wrench (#6055) or Surgical Handpiece.**

PROSTHETIC COMPONENTS

Impression Transfer Posts

CATALOG NO.	DESCRIPTION
7011	Impression Post Hexed
7012	Impression Post/Pick-up
7005UT	Ultratooth Impression Post



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Availability is limited — email info@ultratooth.com to confirm items before ordering.

PROSTHETIC COMPONENTS

Universal Immediate Fixed Abutment (IFA) Components

FOR SINGLE TOOTH OR SHORT-SPAN FIXED RESTORATIONS.

NOTE
ONLY SARGON RESTORATIVE COMPONENTS ARE COMPATIBLE WITH SARGON IMPLANTS.

The Universal Immediate Fixed Abutment is titanium nitride coated (Gold Color) for esthetic compatibility with the soft tissues.

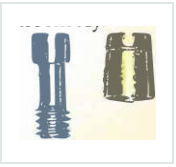
CATALOG NO.	DESCRIPTION	COLLAR HEIGHT	OVERALL LENGTH
7041G	IFA Short	4.2 mm	5.08 mm
7042G	IFA Medium	4.2 mm	6.96 mm
7040G	IFA Long	4.2 mm	10.03 mm







All IFA abutments consist of a two piece assembly. The assembled components consist of an external hex and an implant interfaced hex.



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PROSTHETIC COMPONENTS CONT…

Universal Immediate Fixed Abutment (IFA) Components



CATALOG NO.	DESCRIPTION
7060G	IFA Treatment Crown Sleeve Titanium Nitride Coated (Gold Color) OBSOLETE



CATALOG NO.	DESCRIPTION
7066	6 mm IFA Treatment Crown Sleeve Acrylic Resin
7068	8 mm IFA Treatment Crown Sleeve Acrylic Resin



CATALOG NO.	DESCRIPTION
7050	IFA Transfer Sleeve



CATALOG NO.	DESCRIPTION
7070	IFA Impression Sleeve



CATALOG NO.	DESCRIPTION
7230-1	IFA Waxing Sleeve



CATALOG NO.	DESCRIPTION
7306ST-1	IFA and Ultratooth Analog

(Please note: The images shown are not actual size)

Availability is limited — email info@ultratooth.com to confirm items before ordering.

PROSTHETIC COMPONENTS CONT…

Abutments and Laboratory Components

CATALOG NO.	DESCRIPTION
7305S-1	Implant Analog - single
7305S-4	Implant Analog - pack of four (not shown)


7305S-1

Recommended for custom-cast abutment cases and screw/retained crowns (UCLA type).

CATALOG NO.	DESCRIPTION	COLLAR HEIGHT	OVERALL LENGTH
7126*	Preparable Fixed Abutment	2 mm	10 mm
7015*	15 degree preparable Angled Abutment	2 mm	10 mm
7025*	25 degree preparable Angled Abutment	2 mm	10 mm
7115*	15 degree PREP (Titanium Nitride Coated) OBSOLETE		8 mm
7125*	25 degree PREP (Titanium Nitride Coated) OBSOLETE		8 mm

*Abutment screw included.


7126


7015 7115


7025 7125

CATALOG NO.	DESCRIPTION
7210-4	Waxing Sleeve Non-Hexed - pack of four (not shown)
7220-1	Waxing Sleeve Hexed - single
7220-4	Waxing Sleeve Hexed - pack of four (not shown)
7225	Machined Gold Waxing Sleeve OBSOLETE


7220-1 7225

CATALOG NO.	DESCRIPTION
7160	Abutment Screw


7160

(Please note: The images shown are not actual size)

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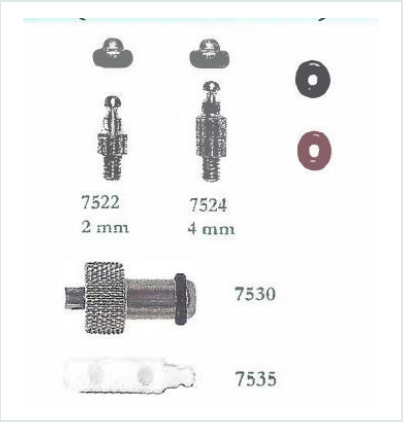
ACCESSORIES

Sargon O-Ring Attachment (S.O.R.A.)



CATALOG NO.	DESCRIPTION
7518-5	S.O.R.A. Std. retention O-Ring Black-pack of five (shown single)
7519-5	S.O.R.A. Light retention O-Ring Red-pack of five (shown single)
7522*	2 mm S.O.R.A. set **OBSOLETE**
7524*	4 mm S.O.R.A. set **OBSOLETE**
7530	S.O.R.A. Insertion Tool
7535	S.O.R.A. Castable Male

*S.O.R.A. set consists of 1 male, 1 female, 1 Black and 1 Red O-Ring.

Surgical Instruments



CATALOG NO.	DESCRIPTION	DIAMETER
6000H*	Screwdriver (Handpiece)	2.0 mm
6005	Screwdriver Assembly (Expansion)	2.0 mm
6020H*	Hex Driver (Handpiece) or (Hand Wrench)	1.6 mm
6025	Hex Driver Assembly (fits all abutments)	1.6 mm
7525	Setscrew Driver (0.05 inch)	1.3 mm

*may be used with Hand Wrench #6055 or Surgical Handpiece.
Please note inserts are available for #6005 and #6025.

CATALOG NO.	DESCRIPTION
6040	Implant Driver Assembly
6040UT	Ultratooth Driver Assembly

CATALOG NO.	DESCRIPTION
6055	Hand Wrench

(Please note: The images shown are not actual size)

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ACCESSORIES CONT…

Accessories

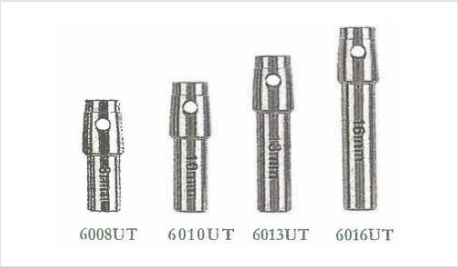
CATALOG NO.	DESCRIPTION	DIAMETER
6060	Implant Body Try-In	3.3 mm



Ultratooth Body Try-In Set

CATALOG NO.	DESCRIPTION
6060UT	Ultratooth Body Try-In - set of four

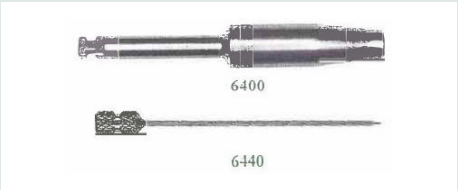
The Ultratooth Body Try-In is a simulation of an IFA abutment on a Sargon Implant.



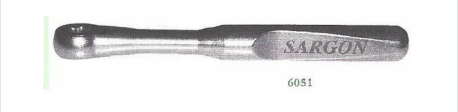
CATALOG NO.	DESCRIPTION	DIAMETER
6070	Paralleling Pin (two sided)	2 mm and 3.5 mm



CATALOG NO.	DESCRIPTION
6400	Drill Extender
6440	Drill Cleaner



CATALOG NO.	DESCRIPTION
6051	Ratchet



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ACKNOWLEDGEMENT

Sargon Dental Implants® would like to thank Dr. Robert Garfield for his dedication and support in the creation of this restorative manual. Without his steadfast devotion to the onward evolution for the improvement of patient service in the field of implant dentistry, the contents of this work could not have been completed.

With gratitude and appreciation from your Friends and Colleagues

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