The future of implantology

Prosthetic Manual
for ID^{CAM} implants

ORIGINE FRANCE® GARANTIE

CERIB 130008

IMPLANTS DIFFUSION INTERNATIONAL
French designer and manufacturer since 1978

www.**idi**-dental.com

Caution: US federal law restricts this product for sale by or on order of a dentist or physician.

ID CAM implants with cover screws and healing caps are shipped **sterile**. Abutments with abutment screws are shipped **non sterile** and must be sterilized before use. See sterilization instructions below. IDI abutments are intended to be modified by the user only within the parameters described within this manual.

Storage and Handling
Store the devices in a dry, clean and dust free environment in the original packaging at modest temperatures (5°C to 40°C / 41°F to 104°F).

MRI Use with IDI Implants

ID CAM Dental Implants have not been evaluated for safety and compatibility in the MR environment. It has not been tested for heating, migration, or image artifact in the MR environment. The safety of the IDICAM Dental Implants in the MR environment is unknown. Scanning a patient who has this device may result in patient injury.

Device Description:

The IDCAM Dental Implant is a tapered conical implant system with three designs. IDCAM with mini-threads, IDCAM S and IDCAM ST. IDCAM S has large flat threads in the straight walled top section and sharp threads on the bottom tapered section. It comes in diameters of 3.7,3.9,4.2 and 5.2mm with a length of 8.5mm IDCAM ST has large flat threads at the top and sharp threads at the bottom and comes in diameters of 3.7, 3.9, 4.2 and 5.2 mm. Lengths of 9.4, 11.4, and 14.4 mm are available. The IDCAM with mini-threads has mini-threads at the top and with sharp threads below. It comes in 4.2, and 5.2 mm diameter with lengths of 8.5,9.4, 11.4, and 14.4mm. The bottom of all three IDCAM designs is convex.

All implants and abutments are made of ASTM F136 Ti 6Al 4V ELI. The implants have a grit blasted and acid etched surface.

ID CAM abutments for single unit restorations are all attached by Morse taper fit as well as a screw. Morse taper cone straight abutments come in 3.6 and 4.2mm diameter with gingival heights of 1.4, 3, and 5mm.
Morse taper cone shouldered straight abutments come in 5.4mm diameter at the upper platform with a 3.6mm diameter at the platform bottom and gingival heights of 1.3, 2.2, 3.2, and 5mm. Morse taper angled cone abutments come in 7°, 15°, and 23° angles in diameters of 3.6 and 4.2 and gingival heights of 1.4 (7° only) or 1.63 (15° and 23°), 3, and 5mm.
Morse taper angled cones abutments with shoulder come in 7°, 15°, and 23° angles in a diameter of 5.4 at the upper platform with a 3.6mm diameter at platform bottom and gingival heights of 0.9, 3, and 5mm in 7°, and gingival heights of 0.9, 2.35, 3.30, and 5.03mm in 15°, and 23°.

PLAN abutments in 5.4mm diameter at shoulder top with a 3.6mm diameter at shoulder bottom and come in gingival heights of 1.5 and 3mm and there are straight, 15°, and 23°

versions. Plan abutments can be used for single or multiple unit restorations but are not used for removable prostheses.

Straight IDUnit abutments, angled IDUnit abutments, IDLoc abutments, and ball attachments are permanent threaded abutments which are for multi-restorations only. IDLOC is 3.6mm diameter at platform and comes in gingival heights of 2.5, 4, 5.5, and 7.5 mm. Ball attachments are in 3.5 diameter and come in gingival heights of 1, 2.5, 4, or 6mm. Straight IDUnits are in 3.6mm diameter with 4.9mm diameter at top of shoulder and come in gingival heights of 1, 2.5, 4 or 6 mm. 17° angled IDUnits come in 3.6mm diameter with 4.9mm diameter at top of shoulder and in a gingival heights of 1.35,3.02 or 5 mm. 30° angled IDUnits come in 3.6mm diameter with a 4.9mm diameter at top of shoulder and in a gingival heights of 1,3.01 or 5 mm. Straight and angled IDUnit mounted dentures can only be removed by the dentist, but dentures mounted on IDLoc or ball attachments can be removed by the patient.

Provisory abutments are temporary use abutments which allow placement of a temporary restoration. These come in 3.6mm diameter and varieties of nonrotational (4.8mm diameter at top of shoulder, gingival height of 1.5mm and post height of 7.5mm), nonrotational tall (4mm diameter at top of shoulder, gingival height of 1.5mm and post height of 12.5mm), rotational (gingival height of 1.5mm and post height of 7.5mm) and provisory IDUnit (4.9mm diameter at the base and a post height of 10.5mm).

Healing caps are temporary use abutments used during the healing phase which come in different gingival heights shapes in order to account for tissue thickness differences and space differences. Cylindrical shape healing caps come in diameters of 3.2mm with heights of 3.5 and 5mm, 4 & 5 mm with heights of 2, 4, 6, and 8mm. Conical profile healing caps come in 3.6mm diameter at the platform with a 6mm cone top diameter and 4mm gingival height, or a 3.6mm diameter at platform with a 6mm cone top diameter and gingival height of 6mm. There is also a healing cap for the IDUnit.

Indications for use: IDCAM Dental Implants are endosseous implants intended to be surgically placed in the upper or lower jaw arches to provide support for prosthetic devices, such as an artificial tooth , in order to restore patients esthetics and chewing function. IDCAM implants are intended for single or multiple unit restorations on splinted or non-splinted applications. They are intended for immediate loading when good primary stability is achieved, and with appropriate occlusive loading. These implants can also be used for loading after a conventional healing period.

Contraindications

- Dental implantation is a surgery operation. Any contraindication that applies to surgery operations also applies to patients subject to a dental implant operation.
- Hypersensitivity to components of the implant.
- Inadequate bone mass.

Warnings

- The implant may be rejected due to the failure of the jawbone to osseointegrate with the implant.
- The implant site may become infected due to poor oral hygiene.

- There may be swelling in the affected area, but it diminishes within a few days.
- There may be pain caused by nerve damage due to the implant being placed very near to or over a nerve. In such a case, the patient should immediately contact the dentist, who may remove the implant and replace it if necessary.
- Sinus problems may occur in upper jaw implantation due to the dental implant protruding into one of the sinuses. To address this issue the dentist may replace the implant.
- If there is insufficient bone to support the implant, bone grafting will be required.
- All sterile implants are for single use only; they should not be re-sterilized. All implants must not be used after the expiration date printed on the product label. Sterile implants must not be used if the package has been damaged or previously opened.
- Do not use the contents of the package if there is any observable physical damage to the blister or tube.
- Building the crown on top of the implant immediately after implantation may disturb the osseointegration process and cause dental implant failure.
- Small diameter implants and angled abutments are not recommended for use in the posterior region of the mouth.

Precautions

- Prospective implant candidates must be thoroughly screened, and a systematic and coordinated plan delineating the responsibilities of each member of the operation team should be developed and followed.
- The evaluation of implantation patients should include the following steps:
    - Elicit and record a comprehensive medical and dental history of the patient and consider the relevance of that in formation to the individual case.
    - Perform a comprehensive visual inspection as well as panoramic and apical radiographs to determine anatomical landmarks, occlusal conditions, periodontal status, and adequacy of the bone. Lateral cephalometric radiographs and tomograms may also be beneficial in special cases.
- During the planning phase it is important to determine the availability of adequate bone mass for implant placement and to confirm that the available occlusal space is sufficient to accommodate the proposed abutment and final restoration. Minimizing the trauma to the host tissue increases the potential for successful osseointegration.
- CAUTION: Electro-surgery should not be attempted around metal implants, as they are conductive.

Abutments and Instruments

All abutments and instruments are supplied NON-STERILE.

Step 1- Insert components into an FDA cleared sterilization wrap.

Step 2 - Autoclave sterilize (pre-vacuum) using 132° C (270°F) for 4 minutes

Step 3 - Dry time is 30 minutes

The validated procedures require the use of FDA-cleared sterilizers, sterilization trays, sterilization wraps, biological indicators, chemical indicators, and other sterilization accessories labeled for the sterilization cycle recommended. The health care facility should

monitor the sterilizer for the facility according to an FDA recognized sterility assurance standard such as ANSI/AAMI ST79:2010.

Table of Contents

This manual is done to describe the use of prosthetic parts with the **ID^{CAM}** implant. It can be a practitioner's guide to the optimal use of these components and fabricated instruments such as ball attachments, IDLoc attachments, IDUnit attachments, sealed (morse tapered and plan) abutments and provisory abutments. The success of any dental implant system depends on the correct use of the components and instruments.

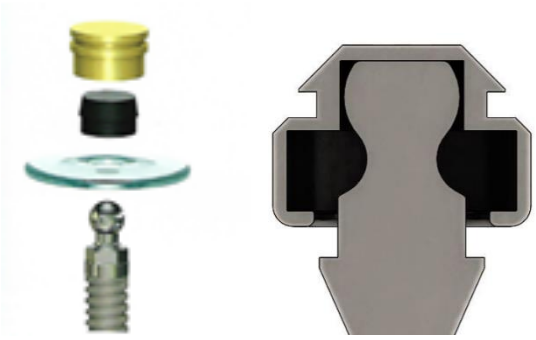
Ball attachment

INTENDED USE

This medical device is suitable for the treatment of endosseous oral implantation in the mandible and maxilla, as well as functional and aesthetic rehabilitation of edentulous patients. It is used to connect the implant to a removable or even a fixed prosthesis.

DESCRIPTION

It is a prosthetic abutment designed to be used in the maxilla or mandible to support dentures in order to restore chewing function. Ball attachments are used in conjunction with endosseous implants to anchor dentures in the bone.



These means of fixation have the following characteristics:

- Low vertical height.
- Rotating swivel action: the nitrile ring allows elastic connection of the prosthesis without loss of retention.
- Resilient design protecting the male part fixed on the implant.

The ball attachments consist of ***a metal ball*** (male part with a diameter of **2.25 mm**) and ***a female part*** **(reference 0122)** that is incorporated into the underside of the prosthesis. The female part is a box which houses the male part and whose characteristics are as follows: *height* = **3.5 mm**, *external*

diameter **= 5 mm**, and *internal diameter* **= 2.40 mm**. In this case, the retention element is a nitrile ring.

BOXES FOR SPHERICAL ATTACHMENTS		
	O'ring **height:3,5mm** **Ø external 5mm**	0122

Note: It is preferable to have parallel implants. Otherwise, the nitrile ring will wear in a few weeks.

ADVANTAGES

- Simple use.
- Ease of handling.

INDICATIONS

The ball attachment is designed for a use with removable or fixed prostheses retained by endosseous implants in the mandible or maxilla.

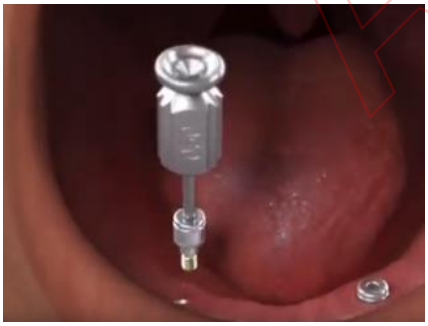
CONTRAINDICATIONS

The use of the ball attachment is contraindicated in the following situations:

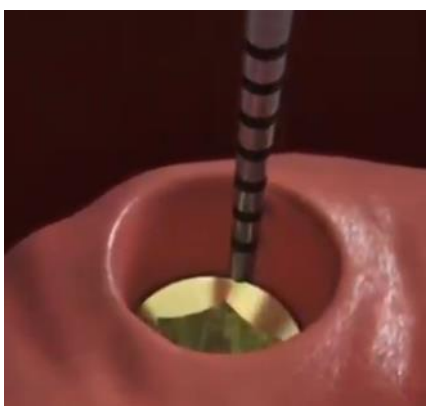
- In cases where there is a totally rigid connection.
- In cases where the divergence between the implants ***is greater than 20 degrees***.
- In situations where an adequate number of implants could not be placed to obtain full functional support of the prosthesis.

Warnings: These tools must be used with caution when handling them because they may be swallowed or ingested if improperly placed or used. Please follow the complete instructions for use.

CLINICAL AND LABORATORY PROTOCOL



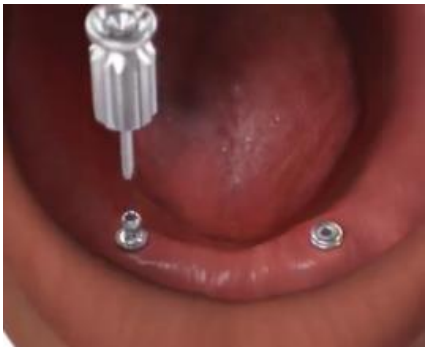
Once the healing period is completed, the healing cap is unscrewed (with a square screwdriver, **reference 0014/0114**) and a special attention is paid to remove all bone and soft tissue that is formed above the implant to ensure complete placement of the implant abutment.



The transgingival height of the ball attachments varies depending on the clinical situation. It can be **1 mm, 2.5 mm, 4 mm and 6 mm**.

The soft tissue thickness ***(height)*** is then measured (with a ***depth tester*** **(reference 412)**) from the cervical portion of the implant (the implant platform) to the marginal ridge of the gingiva.

The square screwdriver (reference **0014/0114)** is used to screw the ball attachment into the implant.

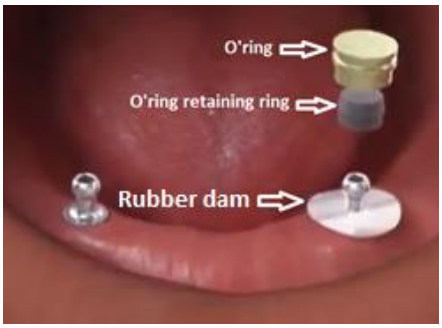


The screwdriver is inserted into a standard torque wrench. A maximum contact force of ***25 N.cm*** prevents the screw from loosening.

The placement of these ball attachments as part of a complete prosthesis can be done either in the dental office or in the dental lab:

Direct placement by the dentist or the chair side technique:

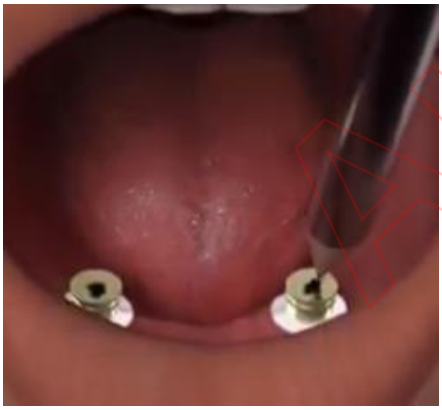
Note: This technique is indicated if the patient already has a well-fitted denture.



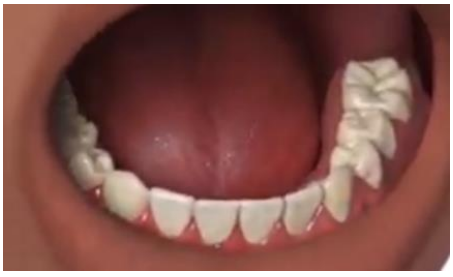
Once the insertion of the appropriate ball attachment is completed the following steps are followed:

- Place a piece of rubber dam over the attachment and over the surrounding area.
- Place the box with its nitrile ring over the ball attachment.

Note: It is advisable to place a rubber dam to ensure a space under the prosthetic abutment.

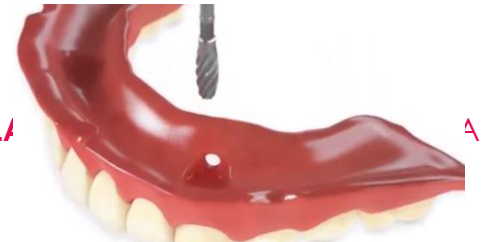


- Mark the location of the ball attachments in the underside of the prosthesis.



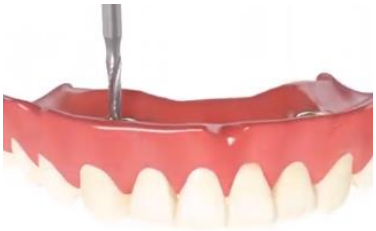
- Mill the prosthesis (*opposite to the ball attachments locations)* to receive the boxes. Use a small ***ball burr*** to create drainage vents that extend to the lingual portion of the prosthesis. These vents eliminate the lifting or hydraulic effect of the self-curing acrylic resin. In addition, they allow the evacuation of the excess of acrylic resin.

Note: It is preferable that excess acrylic resin flows to the lingual side of the prosthesis rather than under the abutments. Place a low-viscosity self-curing acrylic resin mixture over the ball attachment and into the milled area of the overdenture.

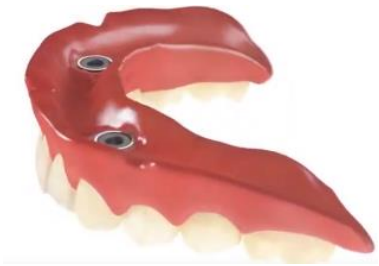




Note: Do not allow the patient to become fully occluded and move the soft tissue into the area containing the ball attachments. The prosthesis will then be tilted or rotated and the attachments will be out of alignment.

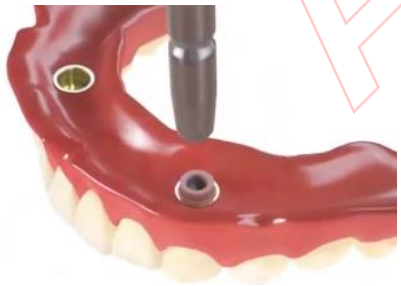


- The prosthesis is left in the mouth for approximately 6 minutes (as directed by the acrylic resin manufacturer).
- Remove excess resin.
- Finishing and polishing.



- The nitrile ring can be easily changed in the box to adjust retention.
- The system is ***color-coded*** to differentiate the retention force used.

	Nitrile retaining ring *soft* (white)	0120NB
	O'ring retaining ring for O'ring attachment *medium* (red)	0120SR
	O'ring retaining ring for O'ring attachment *strong* (black)	0120NN



- Instruct the patient on the path of insertion by having the patient insert and remove the device several times.

Placement by the laboratory:

This method is indicated when the patient does not have a prosthesis to replace his missing teeth.

Clinical procedures:

First, the healing caps are removed, then the dentist places *the impression coping* (*reference 821*) on the ball attachment. Retro-alveolar radiographs are taken along the major axis of the implant to ensure that the impression copings are fully seated on the ball attachment.

Once the position of the impression coping in relation to the ball attachment is validated, the dentist makes a secondary impression with *an individual impression tray* (already prepared from a primary impression) using the simultaneous double mixing technique.

IMPRESSION COPINGS		
	Impression coping **ID**^{SLIM}	821

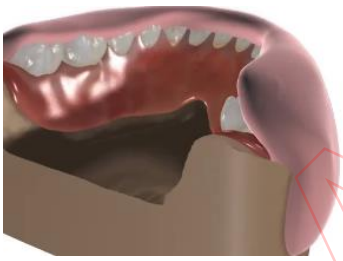
Note: Since the shape and the dimensions of the ball attachment are the same as those of the **ID**^{SLIM} upper part, the impression coping and the implant analog of this implant (**ID**^{SLIM}) can be used to transfer the position of these attachments screwed to any implant manufactured by IDI (including the **ID**^{CAM} implant).

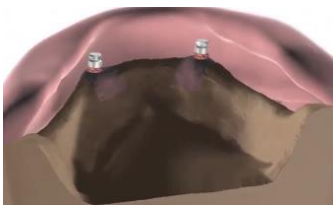
The healing caps are immediately repositioned to prevent soft tissue from sagging on the implant. The impression is now ready to be cast to make *a working model*.

Laboratory procedures:

The dental technician inserts *the implant analogs* (reference 823) into their *impression copings* and the casting of this impression results in a working model on which occlusal bases are fabricated (and these bases already contain the boxes that will receive the ball attachments).

IMPLANT ANALOG		
	Implant analog **ID**^{SLIM}	823

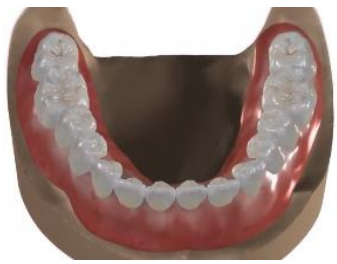


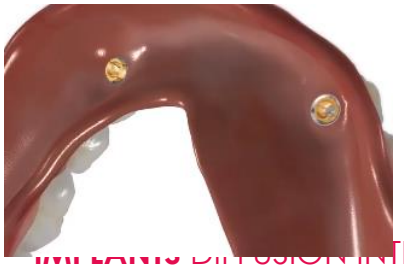


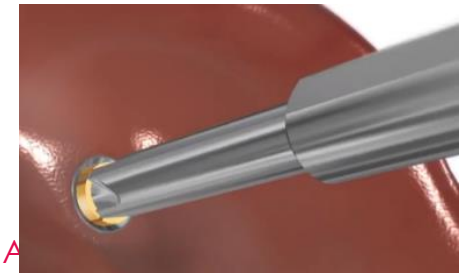
- The dentist makes the bite registration.
- The laboratory technician mounts the models on an articulator and mounts the teeth on wax.

- The dentist validates the mounting of the teeth on wax.
- The prosthetist transforms the wax into resin.
- The prosthesis is fitted in the mouth (occlusion check) and the final restoration is then delivered.

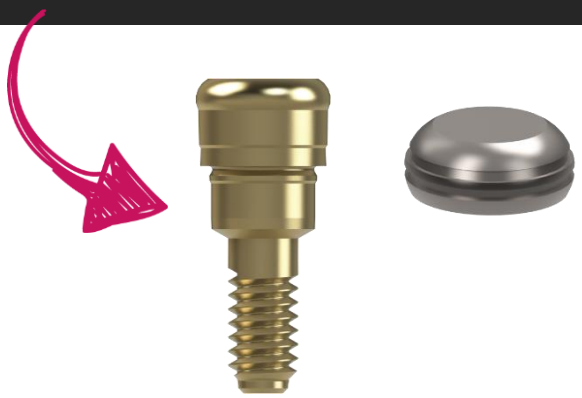
Note: The color of the nitrile ring used depends on ***the desired retention force***.







IDLOC attachment:



INTENDED USE

This medical device is suitable for the treatment of oral endosseous implantation in the mandible and maxilla, as well as functional and aesthetic rehabilitation of edentulous patients. It is used to connect the implant to a removable prosthesis.

ADVANTAGES

This attachment is self-aligned and has different retention values ***depending on the nitrile ring placed in the female part***. It is also available in different vertical heights, retentive **and** has a built-in angulation compensation.

DESCRIPTION

The **IDLoc attachment** consists of:

- ***A titanium abutment*** that is screwed directly onto the implant.
- ***A titanium box (LOCFEM)*** that is embedded in the resin of the prosthetic base.
- ***Different plastic rings:*** which are placed in the box and allow a certain freedom of rotation.

The choice of ***the prosthetic kit*** is made according to **the divergence** of the implant and **the desired retention value**. The system is **color-coded** and each color has its own indications, retention strength and insertion angle.

There are different kits for the nitrile rings used:

- **A basic prosthetic kit indicated with straight implants**: which contains ***blue*** (low retention), ***pink*** (medium retention) and ***white*** (high retention) rings.
- **A prosthetic kit with divergence indicated with the angled implants**: which contains rings of ***black color*** (which has a zero-retention value and which maintains the prosthesis during the polymerization of the resin), of ***red color*** (low retention), of ***orange color*** (medium retention) and of ***green color*** (high retention).

To select the **IDLoc attachment**, you must determine the implant type and the diameter used.

The available gingival height between the implant platform and the marginal gingiva must be measured and the corresponding abutment can be selected based on this measurement. ***This abutment must protrude 1.5 mm above the level of the gingiva to function properly***.

For ID^{CAM} implants:

- Whatever the implant placed, the same shape of the female part (LOCFEM) is used.

IDLOC ATTACHMENT BOX		
	Female part (Locator) **Thickness 2,5mm**	LOCFEM

- The transgingival height of the IDLoc attachment varies according to the clinical situation. It can be 1 mm, 2.5 mm, 4 mm, and 6 mm.

Note: no matter which **IDLoc attachment** is used, the top diameter is always 3.85 mm.

INDICATIONS

The **IDLoc attachment** is indicated to stabilize a removable prosthesis when the space between the arches is limited ***due to its reduced height***.

The attachment also allows an easy accommodation of non-aligned implants in the prosthesis due to the resilience of the attachment-box assembly.

CONTRAINDICATIONS

This attachment is contraindicated in the following situations:

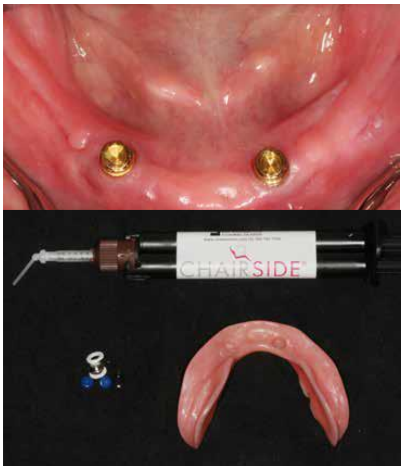
- When a totally rigid connection is required.
- When implants are placed with an axis divergence ***greater than 40 degrees***.
- When a sufficient number of implants could not be placed to obtain full functional support of a prosthesis.

CLINICAL AND LABORATORY PROTOCOL:

The placement of the **IDLoc attachment** in the prosthesis can be done either *in the office (chairside technique)* **or** *in the laboratory*.

Chairside technique:

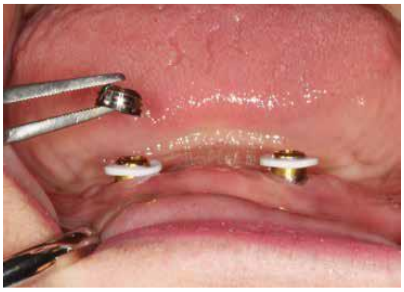
This technique, which requires the patient to have a complete prosthesis, involves the following steps (*case of a complete mandibular prosthesis stabilized by **IDLoc** attachments*):



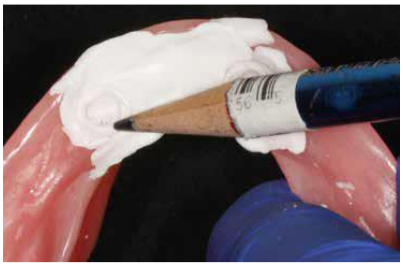
- Examination of the patient's mandibular crest shows **IDLoc attachments** with healthy soft tissue and excellent bacterial plaque control.

- Specific instrumentation must be assembled prior to the fixation procedure. This includes the IDLoc attachment, the LOCFEM

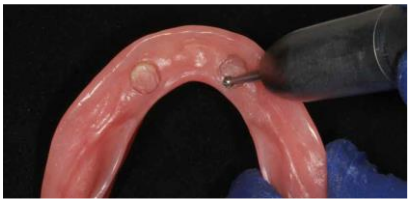
box, the nitrile rings used, the light-curing resin, a resin burr, a FIIT and the patient's mandibular prosthesis.



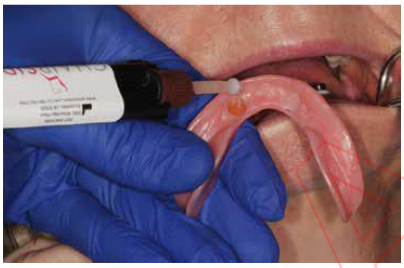
- Installation of *a spacer* or *a rubber dam* at the IDLoc attachment.
- Use of the *black nitrile ring* to ensure that the total prosthesis is completely in place during polymerization.



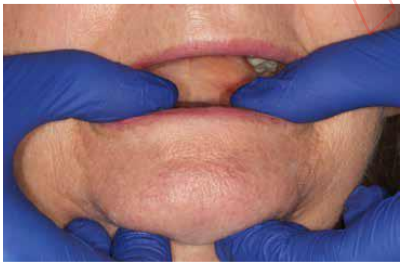
- Placement of ***the FITT*** at the underside of the prosthesis to detect the areas of recesses facing the attachments and the compression areas of the prosthesis (materialized by the absence of FIIT at this level).



- ***A resin burr*** is used to widen the recesses opposite the attachments and to create a lingual emergence hole to remove excess of resin.



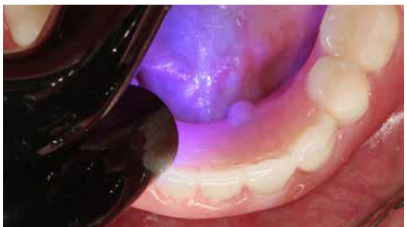
- Inject the prepared resin into the underside of the prosthesis opposite to the recess areas.
- Inject a small amount into the upper part of the ***LOCFEM box*** that already rests on the **IDLoc attachment** and contains ***the black nitrile ring***.



- Place the denture in the mouth while having the patient come in a slight occlusion.

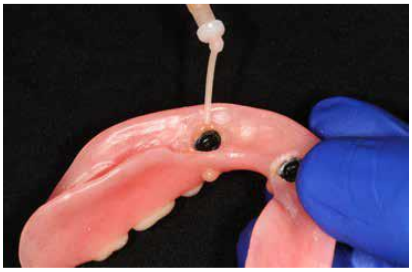
Note: strong occlusal pressure may damage the denture and the black nitrile rings.

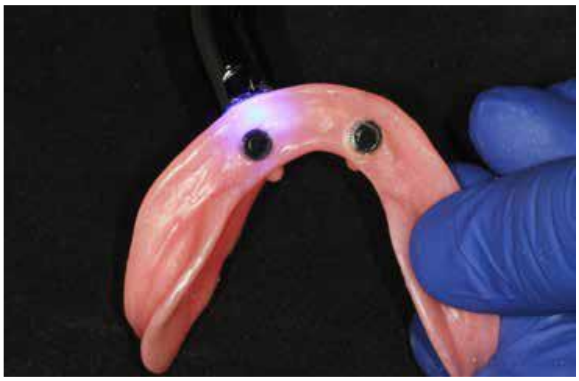
- A polymerization light is used for ***10 seconds*** on the vestibular and lingual sides of each recess, ensuring that at least ***20 seconds*** of light polymerization is applied to each attachment.



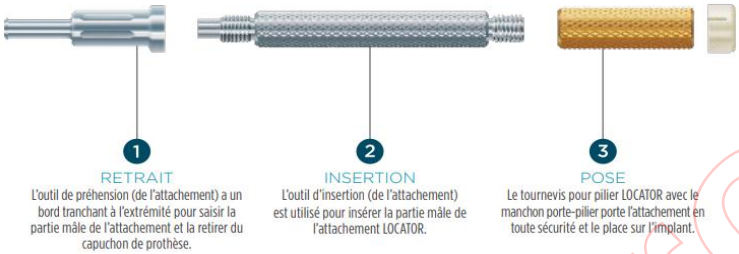
- Small areas of incomplete filling (voids) are filled chairside using ***a straight syringe with an angled mixing tip***.

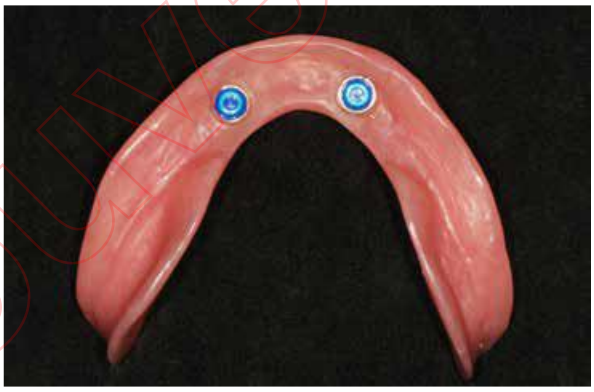
- A polymerization light is used for ***20 seconds***.





- Excess of resin is removed with ***an acrylic burr***.
- ***The black nitrile rings*** are removed using ***a special tool*** and the rings indicated according to the *divergence of the implant* and according to *the desired retention* are placed in the box using the same instrument.





This tool, which is used to manipulate the components of the **Locator**, consists of **3** parts: **the end** which allows the nitrile rings to be removed, **the central part** which ensures that the rings are correctly placed and **the gold-colored screwdriver** used to place the male parts.

- The prosthesis is tested in the mouth to check the fit on the tissues, retention and stability and occlusal fit.

Technique in the laboratory:

This technique involves the following steps:

- Remove the healing caps using the square screwdriver (reference **0014 or 0114)**.

- Make an impression to transfer the implant situation to the master model (For ***ID^{CAM} implants*** the choice of the impression copings depends on the number of implants placed and on the technique of impression used).
- Replace the healing caps.

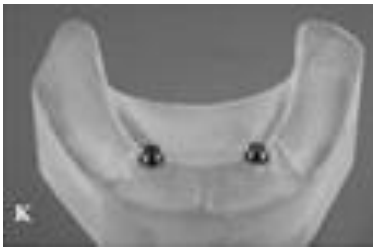
- Firmly insert ***the implant analogs*** (**reference 0223**) over ***the impression copings*** and place them into the impression.

IMPLANT ANALOG		
	Implant analog Ø3,6 mm	0223

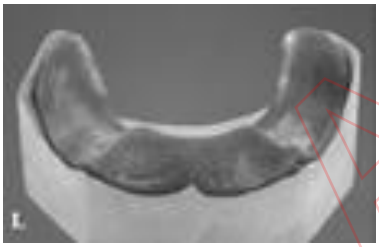
- Pour the impression to obtain a working cast.

- Select the **IDLoc** attachment (this choice is made by the dental technician).
- Place the box (**LOCFEM**) with the black nitrile ring on the **IDLoc attachments** that are already on the master model.

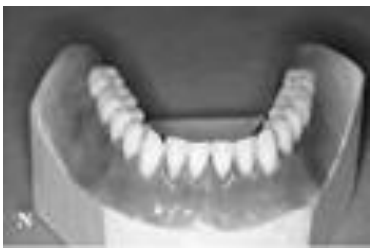
IDLOC ATTACHMENT BOX		
	Female part (Locator) **Thickness 2,5mm**	LOCFEM



Note: This ***black nitrile ring*** will hold the prosthesis in place with a high level of resilience.



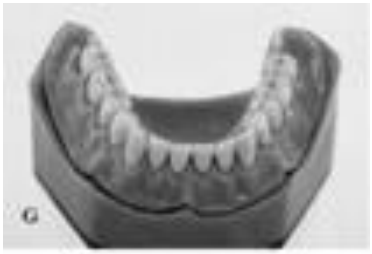
- Fabricate a resin base plate that incorporates the metal box (LOCFEM) with its nitrile ring and that allows bite registration (the dental technician sends the selected IDLoc attachments with the bite bases to allow the dentist to perform the bite registration).



- After recording the bite, mounting the teeth on wax and fitting the wax-up, the prosthesis will be flasked and the injected resin will be cured.

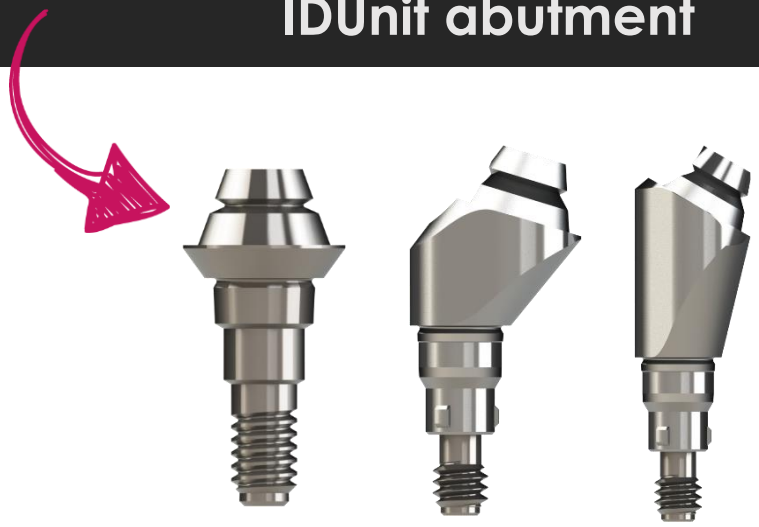
- The black nitrile rings are removed using ***a specific tool*** and the rings indicated **according to** *the divergence of the implant* **and according** *to the desired retention value* are placed in the box using the same instrument.

Note: If ***three or more IDLoc attachments*** are placed in the same arch, it may be necessary to use nitrile rings *that are not too retentive* (**Ex**: pink or blue color if implants are straight).



- The prosthesis is tested in the mouth to check the fit on the tissues, retention and stability and occlusal fit.
- Delivery of the prosthesis.

IDUnit abutment



INTENDED USE

It is a device that will be placed on the implant to connect it to a prosthesis.

DESCRIPTION

The **IDI** system provides the tools necessary to restore cases as extreme as compromised edentulous cases. With its wide choice of abutment angles (*straight, 17° and 30°*), neck heights and platform diameters, this system can respond to all clinical situations.

INDICATIONS

IDUnit abutments are used in cases of multiple edentulism.

CONTRAINDICATIONS

These abutments are contraindicated in the following situations:

- With patients who are allergic or hypersensitive to pure titanium or to titanium alloy (*Ti-6Al-4V*),
- When an adequate number of implants could not be placed to obtain a functional prosthesis.
- In case of unit prosthesis.

CLINICAL AND LABORATORY PROTOCOL

Provisory prosthesis:

1. After placing the implants, the **IDUnit impression copings** will be connected to the **IDUnit abutments** according to the type of impression to be made:

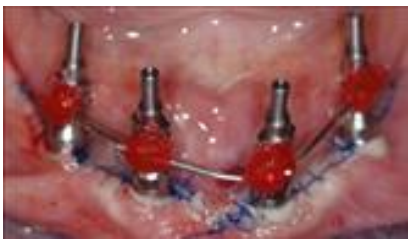
- ***For open tray impression:*** we use the following references:

	Pick-up technique	322
	Pick-up technique, long	322L

- ***For a closed tray impression:*** the following reference is used:

	Closed tray technique	321

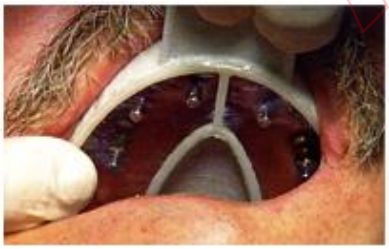
2. Screw these **impression copings** in the mouth (on the **IDUnit abutments**) using the screwdrivers (reference **0014 or 0114)** and check their good adaptation with an X-ray: *no gap should be visible between implants and impression copings.*

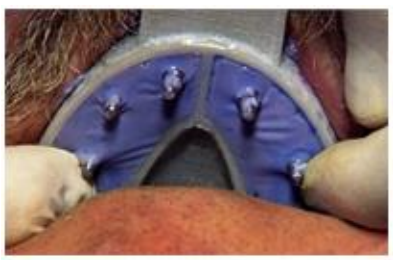


3. For an open impression, the **impression copings** must be connected to each other with *an orthodontic metal retention wires and self-curing acrylic resin*, (***Pattern or Duralay type***).

4. Perforate the impression tray opposite the **impression copings**.

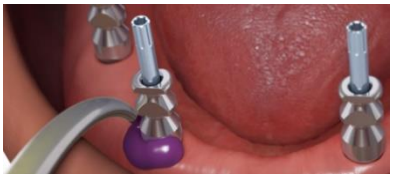
Note: an impression tray with a membrane can be used with the following advantages:

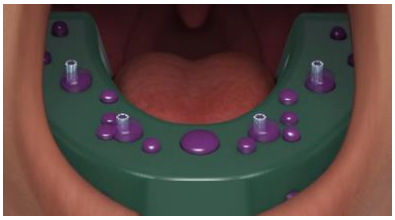




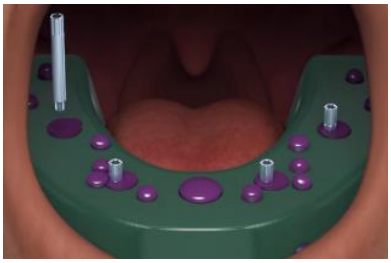
- Easy handling due to the patented membrane.
- No need to trim, the **impression copings** are clearly visible through the membrane.
- Saves the dentist and the patient a new session.
- Big cost savings, no individual impression tray required.
- Combines the advantages of repositioning (simple) with the precision of the "Pick-up" technique.

5. Reposition the stabilized tray in the mouth and check for interference with **impression copings**. In addition, it is necessary to leave space around the **impression copings** to facilitate regular material injection and to ensure sufficient material thickness.





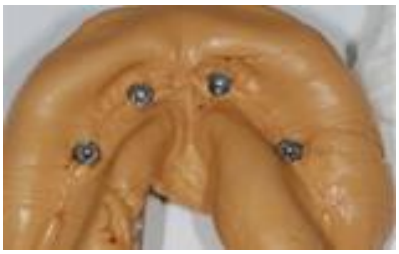
6. Take the impression with medium viscosity silicone using a perforated impression tray: the same viscosity is applied in small quantities around **the impression copings** and for complete filling of the tray.



Note: the use of a more fluid impression material is not recommended as it may seep into the sutures, which could trigger a post-operative infection.

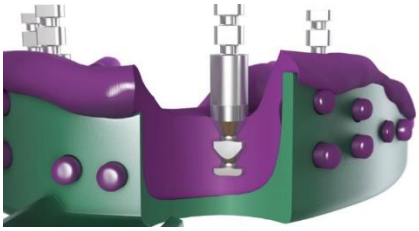
7. Remove excess material from **the screw heads of the impression copings** before they set.
8. Unscrew the **impression copings** once the setting reaction is complete.

9. Disinsert the impression.



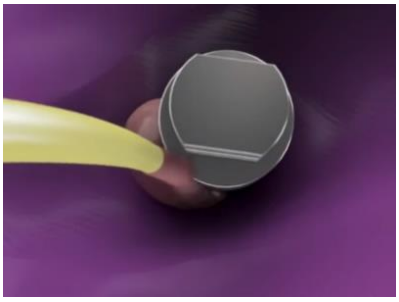
10. Place the **IDUnit Healing cap (reference 330)** (on **IDUnit abutments**), which is used to support the peri-implant soft tissue during the fabrication time of the prosthesis.

11. Screw the **IDUnit implant analogs (reference 333)** on their impression copings using counter torque.



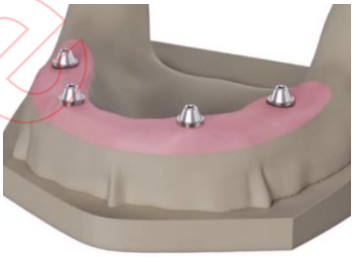
Note: the quality of the impression is then judged:

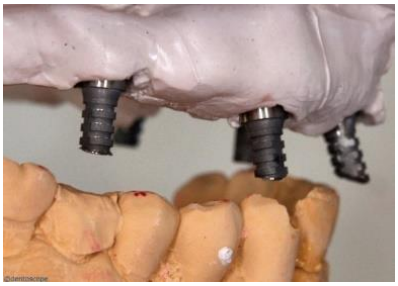
- No **impression coping** must show any mobility.
- There must be no gaps between **the impression copings** or between ***the impression copings and the impression tray***.
- The recording of the crestal relief must be as accurate as possible, taking into account the edema already present and the sutures that may interfere.



12. The impression is then disinfected. It is sent to the prosthesis laboratory with the antagonist model.

13. The impression is cast in plaster.



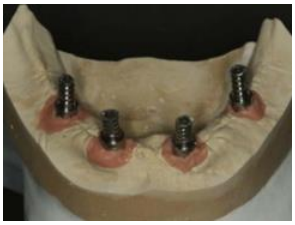


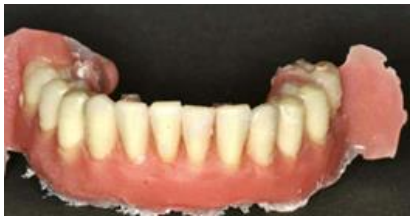
14. A false gingiva is materialized, and the models are mounted in an articulator.

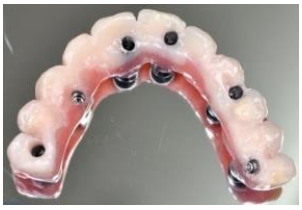
15. The prosthetist fabricates *the provisory prosthesis* that will be screw-retained to the provisory IDUnit abutments (reference 334) through the screw (0216).

Note: the tightening torque must be <u>less than *15 N.cm.*</u>

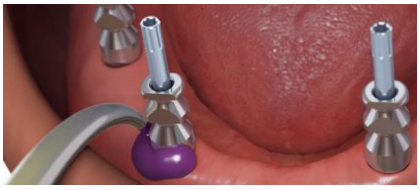
IDUNIT PROVISORY ABUTMENT		
	for IDUNIT + Screw P/N : 0216	334



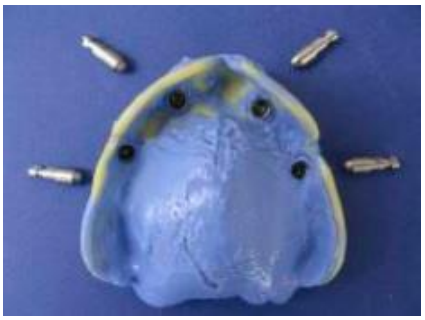




Final prosthesis

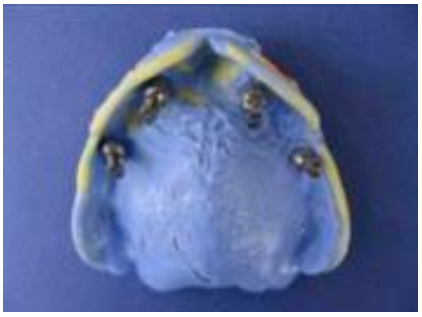


1. The patient is seen again within ***2 to 4 months*** after the surgery for the beginning of the stages of realization of the prosthesis of use. The periodontal situation must then be stabilized.
2. The impression must be taken in the same way as for a temporary prosthesis. It must be rigorous because it does not suffer from the slightest deformation. The slightest deformation in the framework design will automatically result in a misfit and create stress on the abutments attached to the implants.

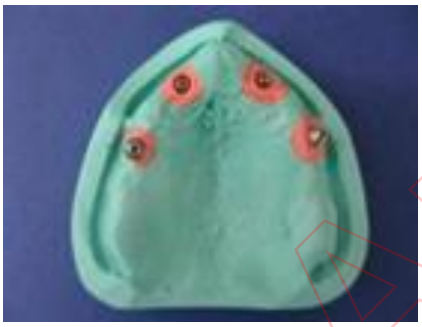


Note: this maladjustment may create instant patient discomfort (pain), unscrewing, loss of screws, or later fracture of the prosthesis or loss of the implant.

3. After the provisional prosthesis is removed, the **IDUnit impression copings** are positioned on the **IDUnit abutments** and an impression is taken with ***polyether*** or ***addition silicones***.

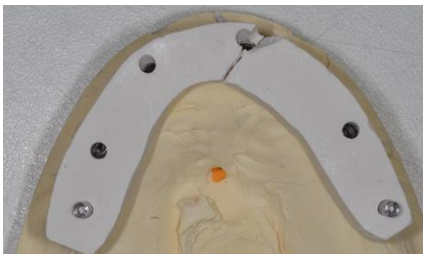


4. The impression is then disinfected and the IDUnit implant analogs (reference 333) are screwed onto the IDUnit impression copings: this screw connection must not be displaced in any way. The risk of rotation is possible at this stage. Placement of the parts should be checked with a binocular magnifier (tightness must be firm but not excessive). The dentist must exert a counter-torque at the same time as he screws the analogs.



5. On the arrival of the impression at the prosthodontics laboratory, a surface tension reducer must be applied before the plaster is poured. The cast is then made directly in ***Class IV hard plaster***.

6. It is necessary to validate the positioning of the implants using ***a plaster key***. This step allows the check of the accuracy of the impression and it is essential when making medium or large restorations. The dental technician secures the **IDUnit impression copings** screwed on th**e IDUnit implant analogs (reference 333)** with a plaster.



Note: The plaster used is generally ***Snow White***: it has the advantage of breaking under low mechanical stress. The key is then returned to the clinician. It is then positioned on the implants. A new radiographic control is performed, then the key is tightened. The fracture of the plaster indicates a lack of passive adaptation due to a defect at the time of the impression. In this case, a new impression will have to be re-done.

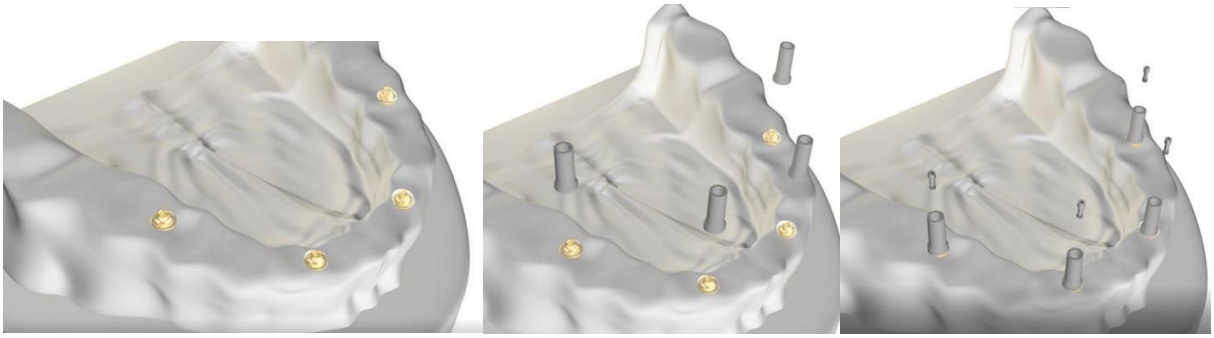
The IDUnits are then tested in the mouth by screwing them onto the implants. For angled IDUnits, the reference retaining screw **0215** is used. For straight IDUnits, the screw is integrated within the part.

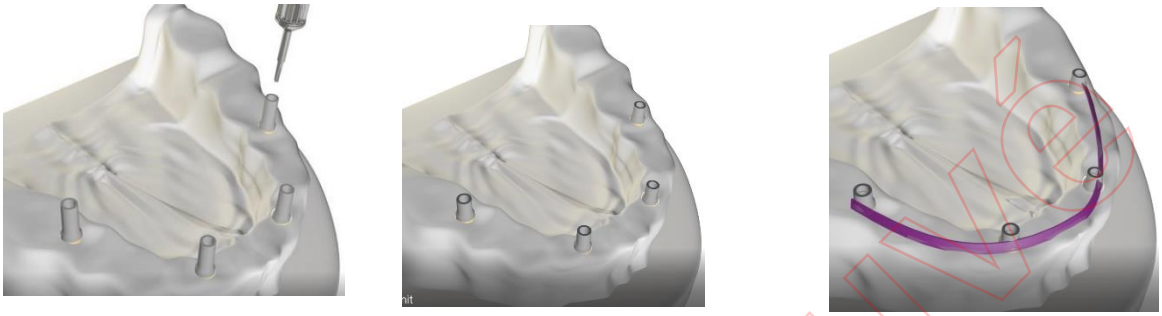
7. The bar on which the prosthesis will be supported can be manufactured using the **IDUnit burnout cylinder (336S)** and **the screw (0216)**.

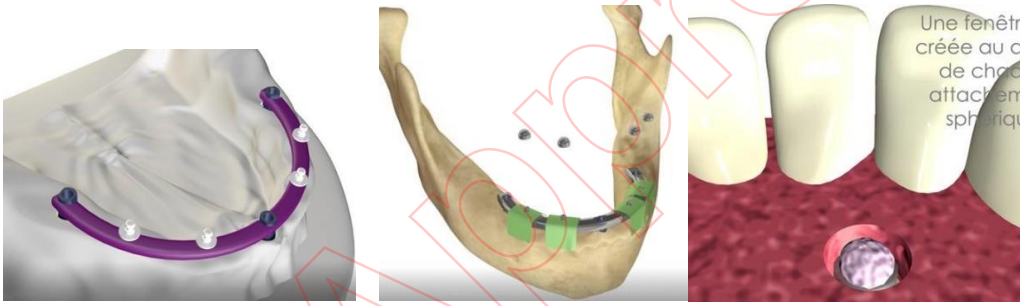
Note: the tightening torque must be **<u>less than *15 N.cm*</u>**.

IDUNIT BURNOUT CYLINDER		
	Burnout element + screw. P/N : 0216	336S

Case 1 :







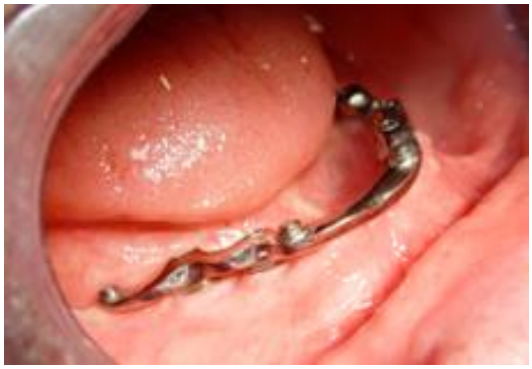
Note: In case an over-denture fixed by a bar is indicated, the dental technician can use **IDI's castable elements** such as:

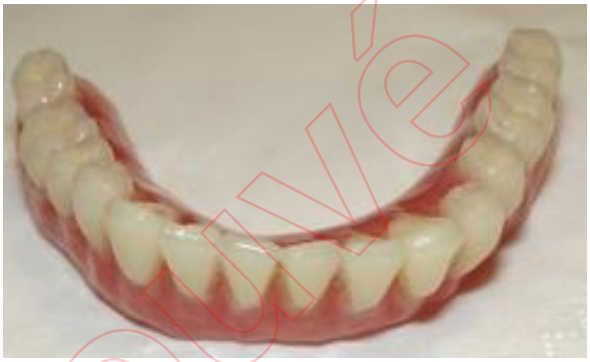
	Burnout spherical attachments	9222
	Paralleling guide for burnout spherical attachments	9223
	Burnout connector bar **by 3**	0931
	Nylon cap	0025

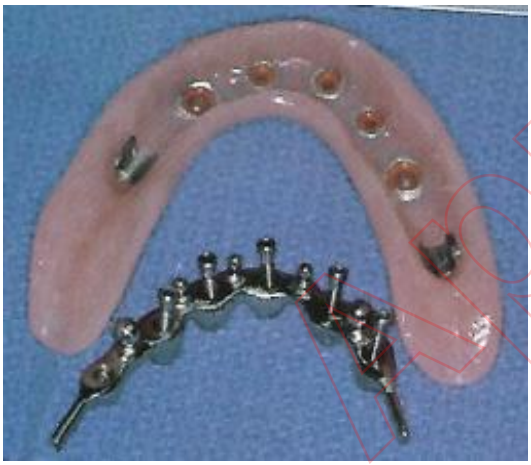
Case 2 :

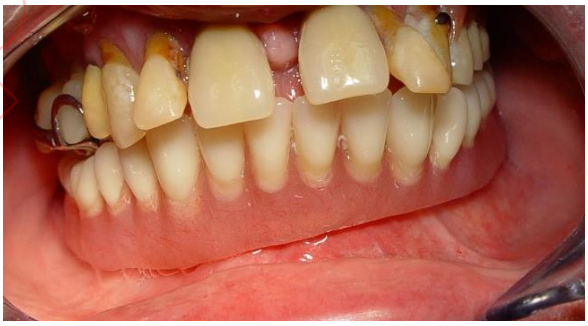
Nylon Cap

Burnout spherical attachment

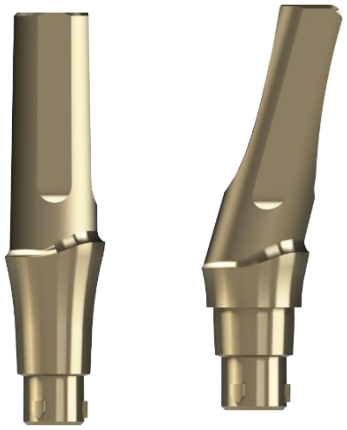








Sealed prosthesis on abutment



INTENDED USE

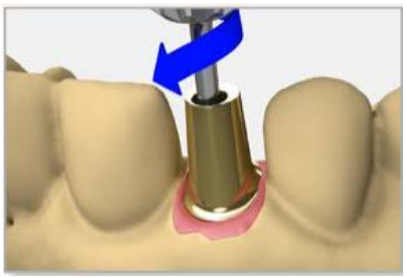
The abutment is the prosthetic part that forms the junction between the implant, a substitute root that provides anchorage in the bone, and the crown that provides the masticatory and aesthetic functions.

DESCRIPTION

The choice of the abutment is made according to the diameter of the implant, its inclination, its location on the arch, the depth of the soft tissues and the extent of the prosthesis that will be made.

For a unitary tooth loss:

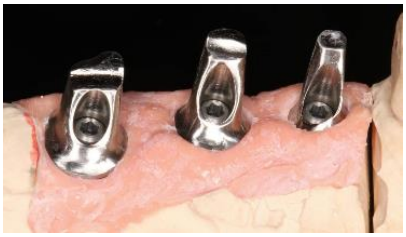
Morse tapered and **plan** *(tube'n'tube)* abutments are used. **Aesthetic abutments** (for anterior restoration) are also used, which require the use of a specific healing cap.



Note: For implants with ***conical connection* (like ID^{CAM} implants)**, the abutment is engaged in the ***implant analog*** found in the working model. The dental technician tightens the retaining screw (**reference 0211**) by hand with the screwdriver (**reference 0014 or 0114**). Afterwards, he will evaluate the interocclusal dimensions, angulations and tissue contour and mark on the abutment the level of the vertical reduction (*an occlusal clearance of at least 1.5 to 2.0 mm must be provided*).

Note: the minimum abutment post height is **4 mm** from the gingival collar.

For multiple teeth loss:



Only the **plan** *(tube'n'tube)* abutments are used, because there is no variation in insertion due to their plan support. Aesthetic plan (tube'n'tube) abutments are also used (for anterior restoration) which require the use of a specific healing cap.

Note: for implants with ***conical connection*** **(like ID^{CAM} implants)**, the abutments are engaged in the ***implant analog*** found in the working model. The dental technician tightens the retaining screw (**reference 0211**) by hand with the screwdriver (**reference 0014 or 0114**). Afterwards, he will evaluate the interocclusal dimensions, angulations and tissue contour and mark on the abutment the level of the vertical reduction (*an occlusal clearance of at least 1.5 to 2.0 mm must be provided*).

Note: the minimum abutment post height is **4 mm** from the gingival collar.

INDICATIONS

The sealed prosthesis over implants is indicated in the following cases:

- Restoration of single or multiple edentulous small areas.
- Cases where the screw access hole of screw-retained restorations especially at the anterior level may compromise esthetics and occlusal stability.
- In cases where there is a significant divergence between the prosthetic and implant axis, as it allows the compensation of a significant axis difference.
- In cases of small diameter teeth, thus avoiding screw access holes which can occupy a large portion of the occlusal table.

CONTRAINDICATIONS

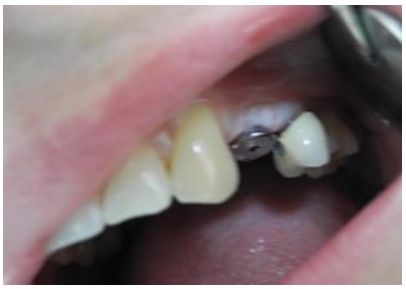
Sealed abutments may be contraindicated in the following cases:

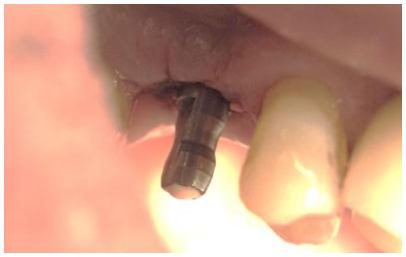
- Large reconstructions or even a completely edentulous arch where complications are more frequent, hence, the need for re-intervention that only screwed restorations allow.
- Limited interocclusal space, which may compromise retention of the prosthesis.
- Situations where the cervical margin is more than 3 mm deep subgingivally, as it is very difficult or even impossible to remove all the excess of cement.

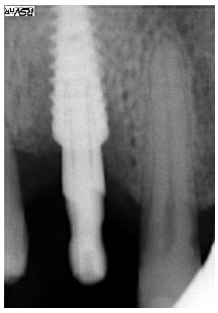
CLINICAL AND LABORATORY PROTOCOL

Sealed unitary prosthesis:

Impression taking







- Remove the healing cap and make an impression to fabricate the working model and an antagonist for the antagonist model.

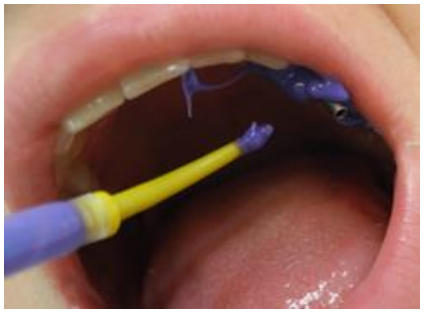
- The reference of the impression copings varies depending on the impression technique used:
  - **Open tray impression:** the following references of the impression copings are used with ***ID^{CAM} implants***:

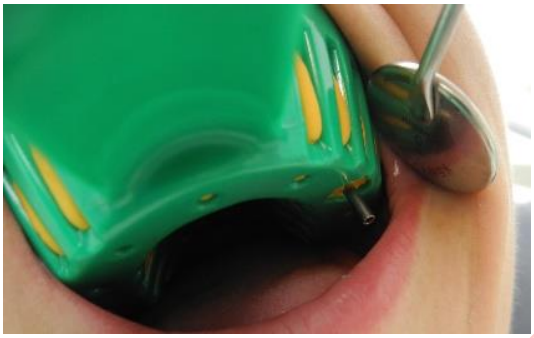
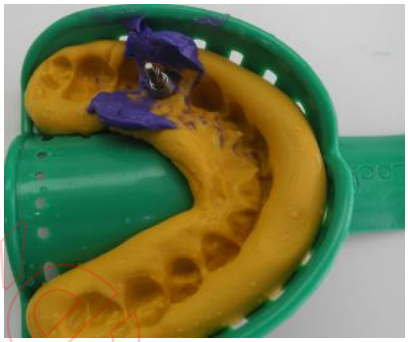
IMPRESSION CYLINDER NON-ROTATIONAL		
	Pick-up technique	2004
	Pick-up technique, narrow	2004N
	Pick-up technique **Plastic**	2004P

  - **Closed tray impression:** the following references of the impression copings are used with ***ID^{CAM} implants***:

IMPRESSION CYLINDER NON-ROTATIONAL		
	Closed tray technique	2004F
	Closed tray technique, long	2004FL
	Closed tray technique, narrow long	2004NL

Screw **the implant analog** to **the impression coping** and send it to the laboratory.

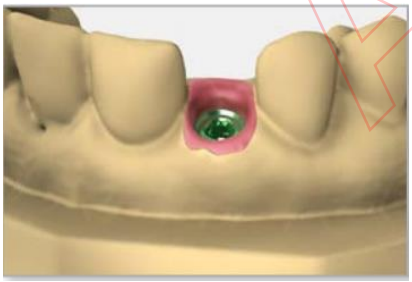




IMPLANT	Analog reference
ID^{CAM}	0223

Make a record of the occlusion and send the occlusion wax to the dental technician so that he can mount the two models on the articulator.

Laboratory steps

Casting the working model:

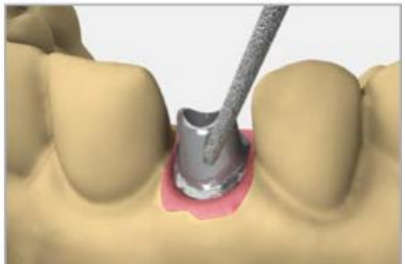


- The laboratory technician will cast the plaster working model (and its antagonist) while paying special attention to the soft tissue impression around the implant, especially when the implant is embedded in the bone (*subcrestal position like with ID^{CAM} implants*). Afterwards, he will mount the two models on articulators.

- Select the implant abutment: see description part.
- Modify the Plan or the Morse tapered abutment:

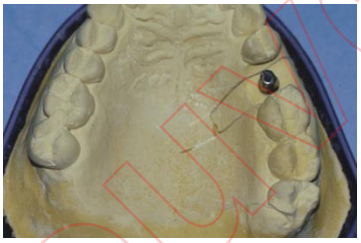
The laboratory technician will reduce the height of the Plan or the Morse tapered abutment using ***a tungsten carbide burr and discs*** according to the interocclusal dimensions measured.

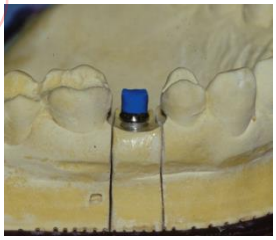
Note: Create a groove on the abutment on its buccal surface to re-index the abutment in the mouth.

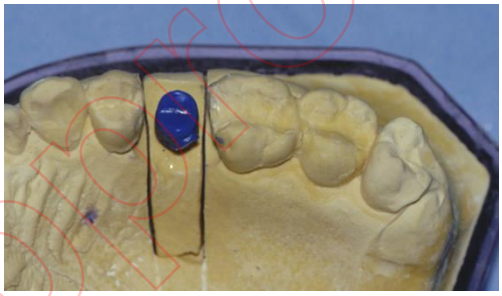


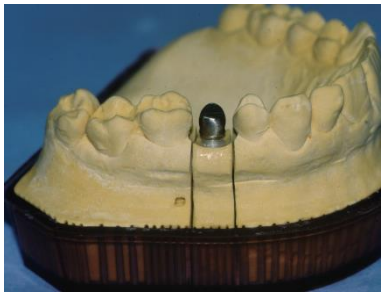
Fabrication of the metal framework:

The dental technician screws the modified abutment onto the implant analog and applies the die spacer over it. Afterwards, he fabricates the wax model of the crown metal framework. Once made and checked on the mouth, the metal framework is covered with ceramic.

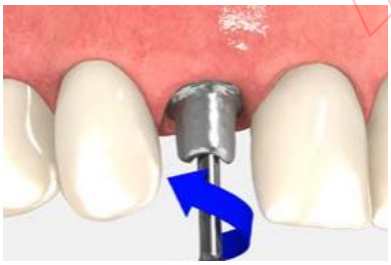




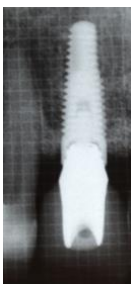




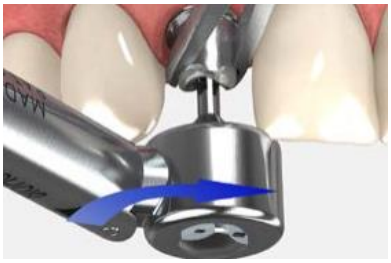
Clinical steps:



- Place the prepared abutment:
  - Sterilize the abutment according to the sterilization instructions.
  - Disinfect the crown.
  - Remove the healing cap or the temporary restoration.
  - Irrigate the connection part of the implant with a disinfectant solution and dry.
  - Place the modified abutment on the implant using a screw (**reference 0211**) and tighten by hand.
  - Make an X-ray along the major axis of the implant to ensure that the modified abutment is fully seated in the implant connection.

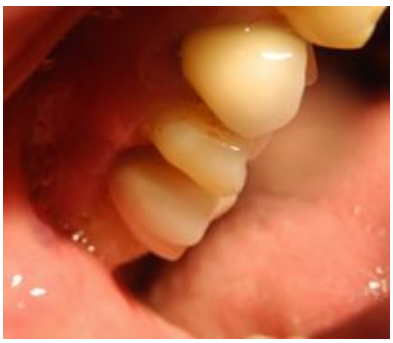


- Tighten the screw to ***25 N.cm*** with a ratchet wrench, (**reference 415)** and apply the counter torque by gripping the abutment with pliers.



Important: to remove Morse taper or plan (Tube'n'Tube) abutments, the dentist must completely remove the retaining screw (**reference 0211**). Morse taper abutments require also the use of the abutment remover or extractor **reference 0048 or 0148**. Remark: the retaining screw must be changed each time the abutment is removed, or a high torque is applied.

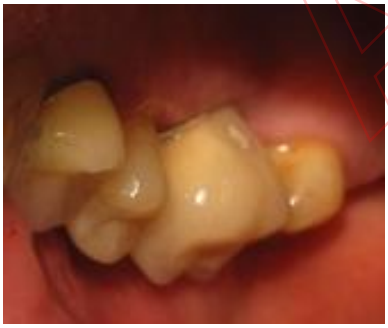
Note: to allow the removal of the morse tapered abutment, the abutment extractor is screwed (through the abutment) into the internal thread of the implant to break the cold weld that is created by the friction of two perfectly conical bodies.

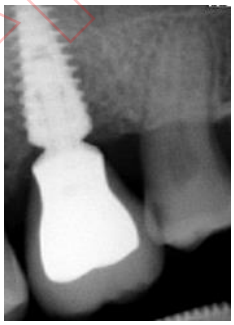


Seal the final crown:

- Place a resilient material of choice (gutta-percha, silicone or temporary filler material) into the screw (this allows easy access to the abutment screw in the future).
- Apply the cement in the underside of the workpiece (almost no cement at the edges of the crown).
- Apply strong pressure and wait for it to fully set.
- Remove the excess of cement.

Important: A postoperative radiograph should be taken to check the absence of an excess of cement.





Sealed plural prosthesis:

Impression taking:

- Remove the healing cap and make an impression to fabricate the working model and an antagonist for the antagonist model.
-
- ***For ID^{CAM} implants:*** the following impression copings are used:

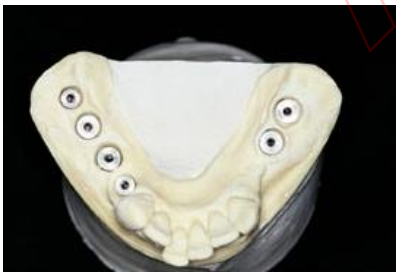
IMPRESSION CYLINDER ROTATIONAL		
	Conical	0220C
	Rotational	0221
	Rotational long, special post-extractional	0221L

- Reposition **the impression copings** in the impression, screw the implant analogs to the impression copings and send the whole to the laboratory.

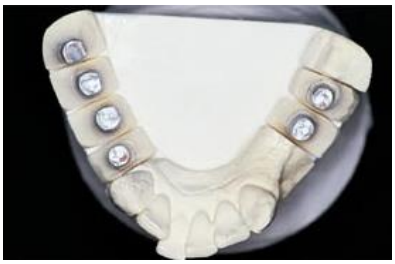
IMPLANT	Analog reference
ID^{CAM}	0223

- Make a record of the occlusion and send the occlusion wax to the dental technician so that he can mount the two models on the articulator.

Laboratory steps:

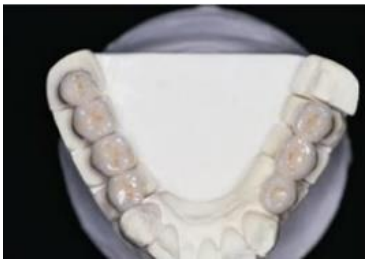


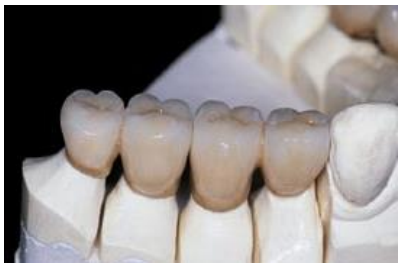
- Casting the working model:
  The laboratory technician will cast the plaster working model (and its antagonist) while paying special attention to the soft tissue impression around the implant, especially when the implant is embedded in the bone (*subcrestal position like with ID^{CAM} implants*). Afterwards, he mounts the two models on articulators.
- Select the implant abutment: see description part.
- Modify the Plan abutment:
  Reduce the height of the Plan abutment using ***a tungsten carbide burr and discs*** according to the interocclusal dimensions measured.



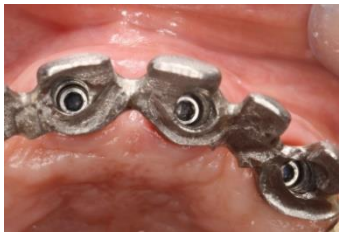
Note: Create a groove on the abutments on their buccal surfaces to re-index the abutments in the mouth.

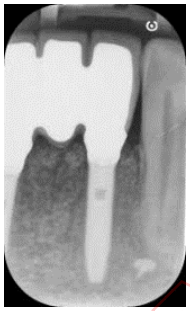
- Fabricating the framework:
  The dental technician screws the modified abutments onto their implant analogs and applies the die spacer on top. Afterwards, the wax-up of the metal framework of the bridge is fabricated. Once the wax-up has been made and checked on the abutments, the metal framework will be covered with ceramics.



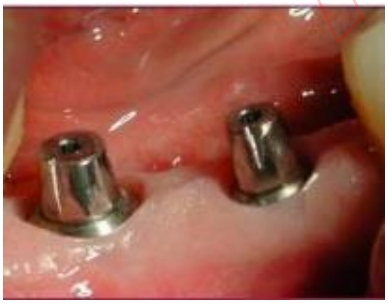


Clinical steps:



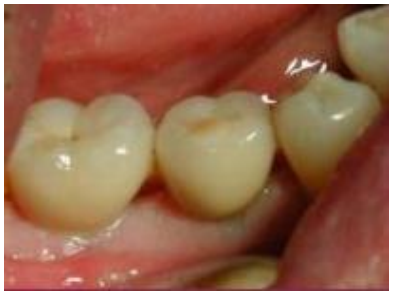


- Place the prepared abutments:
  - Sterilize the abutment according to the sterilization instructions.
  - Disinfect the bridge.
  - Remove the healing caps or the temporary restoration.
  - Irrigate the connection part of the implants with disinfectant solution and dry.
  - Place the modified abutments on their implants with a screw (**reference 0211**) and tighten by hand.
  - Make an X-ray along the major axis of the implant to ensure that the modified abutments are fully seated in the implant connection.



- Tighten the abutment screw:
  Tighten the screws to ***25 N.cm*** with a ratchet wrench (**reference 415**) and apply the counter torque by gripping the abutment with pliers.

  Important: to remove Plan (Tube'n'Tube) abutments, the dentist must completely remove the retaining screw (**reference 0211**).
  Remark: the retaining screw must be changed each time the abutment is removed, or a high torque is applied.



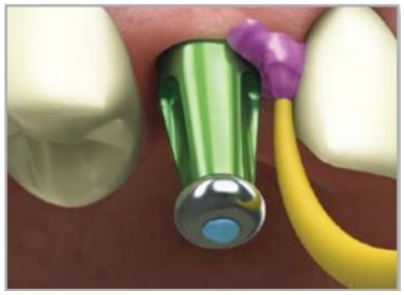
- Seal the bridge permanently:
  - Place a resilient material of choice (gutta-percha, silicone or temporary filler material) into the screw (this allows easy access to the abutment screw in the future).

- Apply the cement to the underside of the restoration (almost no cement at the edges).
- Apply strong pressure and wait for complete setting.
- Remove any excess sealing cement.

Important: A postoperative radiography should be taken to check the absence of the excess of cement.

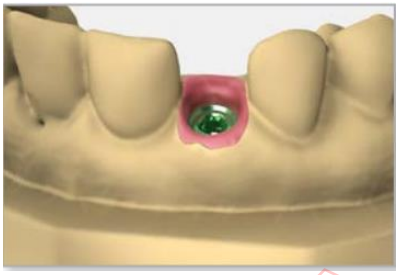
Provisory prosthesis:

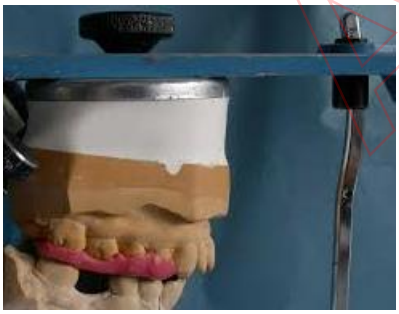
Impression taking



- After implant placement in cases of immediate loading, an impression is made to fabricate the working model and its antagonist (the same impression techniques with the same impression copings and implant analogs are used for definitive sealed prostheses as for provisional ones).
- Make an occlusion registration and send the occlusion wax to the dental technician so that he can mount the two models on the articulator.

Laboratory stage





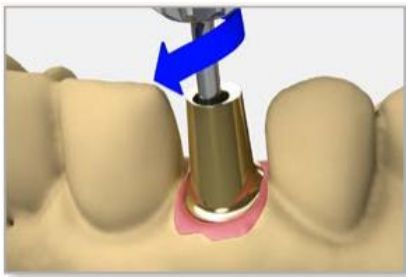
- Casting the working model:
  The laboratory technician will cast the working model in plaster (and its antagonist) while paying special attention to the soft tissue imprint around the implant, especially when the implant is embedded in the bone (*subcrestal position like with ID*^{CAM}). Afterwards, he mounts the two models on articulators.

- Select the provisory implant abutment:
  The prosthetist will choose the provisory abutment(s) according to the extent of the restoration (unitary or plural).

For the ID*^{CAM} *implants, the following provisory abutments are used:

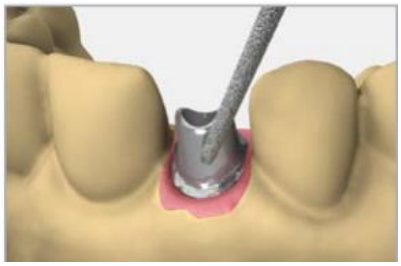
TITANIUM ABUTMENTS FOR A TEMPORARY TOOTH FOR MULTIPLE IMPLANTS RESTORATION		
	Rotational - Ø3,6 mm	0208

TITANIUM ABUTMENTS FOR A TEMPORARY TOOTH FOR ONE IMPLANT RESTORATION		
	Non-rotational - Ø3,6 mm	0206
	Non-rotational temporary titanium abutment, (post-extractional for switching platform)	0206L



Afterwards, he will evaluate the interocclusal dimensions, angulations and tissue contour and mark on the abutment the level of the vertical reduction (*an occlusal clearance of at least 1.5 to 2.0 mm must be provided*).

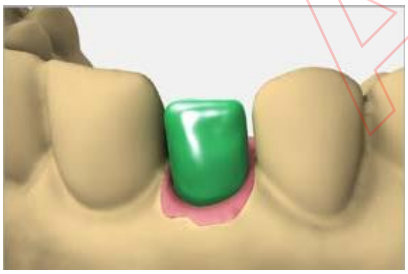
Note: the minimum abutment post height is **4 mm** from the gingival collar.

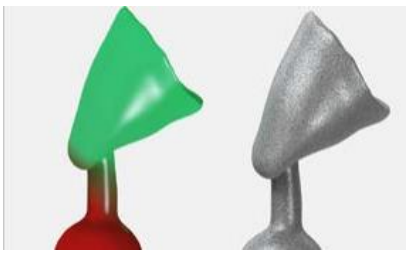


- Modify the provisory abutment:
  The laboratory technician will reduce the height of the provisory abutment(s) using a ***tungsten carbide burr and discs*** according to the measured interocclusal dimensions.

Note: Create a groove on the abutments on their buccal surfaces to re-index the abutments in the mouth.

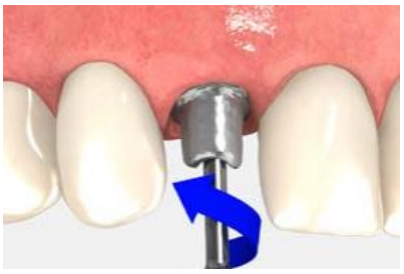
The dental technician uses the retaining screw ref **0217** to create the hole of the provisory tooth in resin.



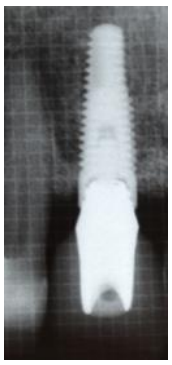


- Fabrication of the metal frame:
  The dental technician screws the modified abutments onto their implant analogs and applies the die spacer on top. Afterwards, the wax model of the metal framework of the bridge (or crown) is made. Once the wax-up has been made and checked on the provisory abutments, the metal framework will be veneered with ceramics.

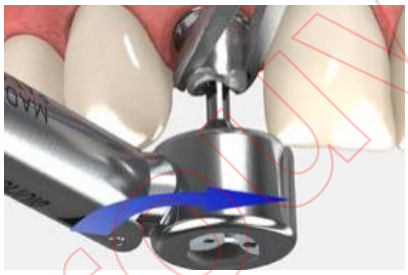
Clinical steps



- Place the prepared abutments:
  - Sterilize the temporary abutment.
  - Disinfect the bridge (or crown).
  - Remove the healing caps.
  - Irrigate the connection part of the implants with disinfectant solution and dry.
  - Place the modified provisory abutments on their implants using the screw (**reference 0214**) for ***implants with conical connection***.
  - Radiography along the major axis of the implant to ensure that the abutments are fully seated in the implant connections.



  - Tighten the screws to **25 N.cm** with a ratchet wrench (reference 415) and apply the counter torque by gripping the abutment with pliers.



- Seal the bridge or crown temporarily:
  - Place a resilient material of choice (gutta-percha, silicone or temporary filler material) into the screw (this allows easy access to the abutment screw in the future).
  - Apply the temporary cement to the underside of the restoration (almost no cement at the edges).
  - Apply strong pressure and wait for full set.
  - Remove the excess of temporary cement.

Important: A postoperative radiography should be taken to check the absence of the excess of cement.

Wait for healing and start the manufacturing steps of the definitive prosthesis as soon as it is considered sufficient.

NOTES

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