

**Need More
Space?
Keep A Low
Profile**



**Comprehensive
Treatment**

**Enhanced
Knowledge**

**Business
Excellence**

Introducing The Surgical Manual For Low Profile Abutments

The Solution Designed To Provide Clinicians With More Space:

- For Screw-Retained Restorations In Areas Of Limited Interarch Distance
- A Wide Array Of Versatile Restorative Options
- Low Restorative Height For Functional Aesthetic Restorations In Limited Interarch Space



Providing Clinicians One Solution At A Time With Low Profile Abutments

- One Restorative Platform For Ease Of Use
- Contoured Emergence Profile Provides Easier Placement In Subcrestal And Flapless Surgery
- For Immediate Or Traditional Loading Procedures Offering Treatment Options

Instructions For Use

This document applies to dental implants, abutments, overdenture bars and associated surgical, restorative and dental laboratory components.

Description: BIOMET 3i Dental Implants are manufactured from biocompatible titanium or titanium alloy and abutments from titanium, titanium alloy, gold alloy and ceramic material. BIOMET 3i Dental Implants and Abutments include various surface treatments and coatings. Other restorative components are manufactured from titanium, titanium alloy, gold alloy, stainless steel and a variety of polymers.

For specific product description and net quantity refer to individual product labels or corresponding catalogs/manuals.

Indications for Use: BIOMET 3i Dental Implants are intended for surgical placement in the upper or lower jaw to provide a means for prosthetic attachment in single tooth restorations and in partially or fully edentulous spans with multiple single teeth utilizing delayed or immediate loading, or with a terminal or intermediary abutment for fixed or removable bridgework, and to retain overdentures.

BIOMET 3i OSSEOTITE® and NanoTite™ Dental Implants are intended for use as an accessory to endosseous dental implants to support a prosthetic device in a partially or fully edentulous patient when good primary stability is achieved, with appropriate occlusal loading, in order to restore chewing function.

Additional Indications: BIOMET 3i Dental Abutments and Overdenture Bars are intended for use as an accessory to endosseous dental implants to support a prosthetic device in a partially or fully edentulous patient. These are intended for use to support single and multiple tooth prostheses, in the mandible or maxilla. The prostheses can be screw or cement retained to the abutment.

PEEK Abutment Posts and Temporary Cylinders are intended for use as an accessory to endosseous dental implants to support a prosthetic device in a partially or fully edentulous patient. These are intended for use to support single and multiple unit prostheses in the mandible or maxilla for up to 180 days during endosseous and gingival healing, and are for non occlusal loading of single and multiple unit provisional restorations. The prostheses can be screw and/or cement retained to the abutment. These Temporary Posts and Cylinders require a minimum interarch space of 6mm and a maximum angulation of 15°. These also allow for occlusal loading of single and multiple unit restorations of integrated implants for guided soft tissue healing.

The QuickBridge® Provisional Components are intended to be mated with BIOMET 3i Conical Abutments for use as an accessory to endosseous dental implants to support a prosthetic device in a partially or fully edentulous patient. The QuickBridge® Provisional Components are intended to support multiple unit prostheses in the mandible or maxilla for up to 180 days during endosseous and gingival healing.

BIOMET 3i Low Profile Abutments are intended for use as accessories to endosseous dental implants to support a prosthetic device in a partially or completely edentulous patient. A dental abutment is intended for use to support single and multiple tooth prostheses, in the mandible or maxilla. The prosthesis can be screw or cement retained to the abutment.

Contraindications: Placement of dental implants may be precluded by patient conditions that are contraindications for surgery. BIOMET 3i Dental Implants should not be placed in patients where the remaining jaw bone is too diminished to provide adequate implant stability.

Storage and Handling: Devices should be stored at room temperature. Refer to individual product labels and the Surgical Manual for special storage or handling conditions.

Warnings: Excessive bone loss or breakage of a dental implant or restorative device may occur when an implant or abutment is loaded beyond its functional capability. Physiological and anatomic conditions may negatively affect the performance of dental implants. The following should be taken into consideration when placing dental implants:

- Bone quality
- Oral hygiene
- Medical conditions such as blood disorders or uncontrolled hormonal conditions

It is recommended that small diameter implants not be restored with angled abutments in the molar region.

Mishandling of small components inside the patient's mouth carries a risk of aspiration and/or swallowing.

Forcing the implant into the osteotomy deeper than the depth established by the drills can result in: stripping the driver hex interface inside the implant, stripping the driver, cold welding of the mount-driver interface to the implant, or stripping the walls of the osteotomy that may prevent an effective initial implant fixation.

Precautions: For safe and effective use of BIOMET 3i Dental Implants, abutments and other surgical and restorative dental accessories, these products or devices should only be used by trained professionals. The surgical and restorative techniques required to properly utilize these devices are highly specialized and complex procedures. Improper technique can lead to implant failure, loss of supporting bone, restoration fracture, screw loosening and aspiration.

Reuse of BIOMET 3i products that are labeled for single-use may result in product contamination, patient infection and/or failure of the device to perform as intended.

Sterility: All dental implants and some abutments are supplied sterile and are sterilized by an appropriate validated method. Refer to individual product labels for sterilization information; all sterile products are labeled 'STERILE.' All products sold sterile are for single use before the expiration date printed on the product label. Do not use sterile products if the packaging has been damaged or previously opened. Do not re-sterilize or autoclave except where instructions to do so are provided on the product label, in the Surgical Manual, in the Restorative Manual or in any additional marketing literature for that product. Products provided non-sterile must be cleaned and sterilized according to the directions found in ART630 or the Surgical Manual prior to use.

Procedural Precautions, Surgery: For a detailed explanation of the procedural precautions refer to the Surgical Manual. During the planning phase, it is important to determine the vertical dimension, the actual space available between the alveolar crest and the opposing dentition, in order to confirm that the available space will accommodate the proposed abutment and the final crown restoration. This information varies with each patient and abutment; therefore it should be carefully evaluated before placing any dental implant. Utilize continuous irrigation with a cool, sterile irrigating solution to avoid excessive damage to the surrounding tissue and to prevent compromising osseointegration. This is mandatory during all procedures. Avoid excessive pressure during preparation of the bone site. As the drilling speed varies based on the instrument and the surgical procedure, recommendations for speed can be found in the Surgical Manual. Only sharp instruments of the highest quality should be used for any surgical procedure involving bone. Minimizing trauma to the bone and surrounding tissue enhances the potential for successful osseointegration. In order to eliminate contaminants and other sources of infection, all non-sterile devices should be cleaned and/or sterilized prior to use, per the instructions on the individual product labels.

Procedural Precautions, Restoration: The healing period varies depending on the quality of the bone at the implantation site, the tissue response to the implanted device and the surgeon's evaluation of the patient's bone density at the time of the surgical procedure. Excessive force applied to the dental implant should be avoided during the healing period. Proper occlusion should be evaluated on the implant restoration to avoid excessive force.

Potential Adverse Events: Potential adverse events associated with the use of dental implants may include:

- Failure to integrate
- Loss of integration
- Dehiscence requiring bone grafting
- Perforation of the maxillary sinus, inferior border, lingual plate, labial plate, inferior alveolar canal, gingiva
- Infection as reported by: abscess, fistula, suppuration, inflammation, radiolucency
- Persistent pain, numbness, paresthesia
- Hyperplasia
- Excessive bone loss requiring intervention
- Implant breakage or fracture
- Systemic infection
- Nerve injury

Caution: U.S. Federal Law restricts this device to sale by or on the order of a licensed dentist or physician.

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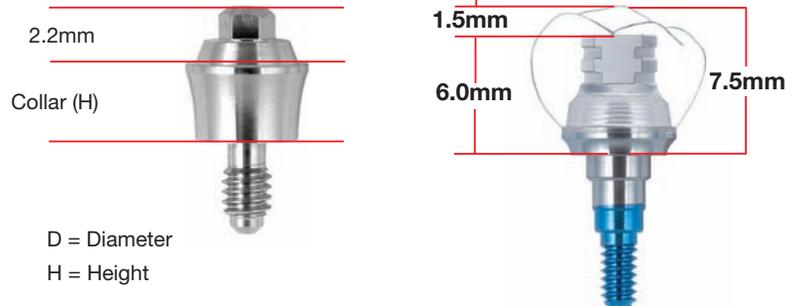
Low Profile Abutment Material, Description And Indications

Material:

Titanium Alloy

Indications:

- Single and multi-unit screw-retained restorations
- Minimum interarch space of 7.5mm
- Minimum tissue height of 1.0mm
- Angle correction up to 30°
- External Hex 3.4mm(D) Low Profile Abutments are limited to use in the anterior



Two-Piece Low Profile Abutments

Are designed for a single-unit restoration. These abutments have a hex at the base of the restorative platform for anti-rotation and engage the hex of the implant. Hexed restorative components are to be used with these abutments. However, these abutments may also be used with multi-unit restorations with non-hexed restorative components.



One-Piece Low Profile Abutments

Are designed to only be used for multiple-unit restorations. These do not have an anti-rotation feature at the base of the restorative platform and do not engage the hex of the implant. Non-hexed restorative components are used with these abutments.



Low Profile Angled Abutments

May be used for single and multiple-unit restorations and are available in 17 and 30 degree angles. These abutments have a hex at the base of the restorative platform for anti-rotation and engage the hex of the implant. Hexed and non-hexed restorative components can be used with these abutments.

Low Profile Abutment Material, Description And Indications (Continued)



Low Profile Retaining Screws

Have a specific beveled seat decreasing the overall height of the restoration.

All Large Hex Drivers and Driver Tips have been modified with the narrower shank. The new driver and driver tips can be identified by a laser marked dot after the catalog number as pictured below.



← Dot



← Dot

Low Profile Abutment Selection And Placement



Surgeon or Restorative Dentist

1. Remove the healing abutment from the implant using a Large Hex Driver (.048" PHDOxN). To prevent accidental swallowing, thread floss through the spinner on the driver.



2. The collar height may be determined by measuring the height of the tissue on the buccal from the implant platform using a perio probe. Subtract 1.0mm if a subgingival margin is desired.

Low Profile Abutment Selection And Placement (Continued)



Certain® Internal Connection Two-Piece and Angled Abutments

3. Activate the fingers using the QuickSeat® Activator Tool. Using the ASYST or alternative delivery tool, place the Low Profile Abutment into the implant, line up the hex and press firmly until hearing and feeling the audible and tactile click. Thread the Low Profile Abutment Screw into the implant by turning the spindle on the ASYST delivery tool until finger tight. Remove the ASYST or alternative delivery tool.

or

External Hex Connection Two-Piece and Angled Abutments*

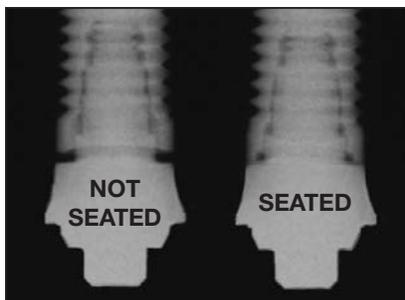
Place the Low Profile Straight Abutment onto the implant using the ASYST Tool. Thread the abutment in place until finger tight. Remove the ASYST Tool.

or

Certain® and External Hex Connection One-Piece Abutments

Place the Low Profile Straight Abutment onto the implant using the ASYST Tool. Thread the abutment in place until finger tight. Remove the ASYST Tool.

4. Radiograph the interface to verify complete seating of the abutment on the implant. Place the film perpendicular to the interface of the abutment on the implant.



One-and Two-Piece Abutments

5. Torque the Low Profile Abutments or Abutment Screws to 20Ncm using the Standard Abutment Driver Tip (RASA3) and a torque device.

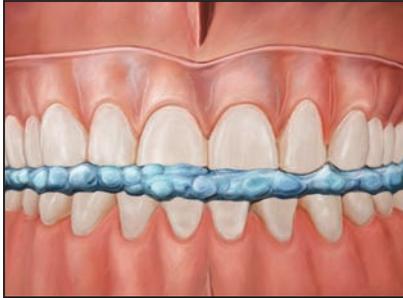


Angled Abutments*

6. Torque the Low Profile Angled Abutment Screws to 20Ncm using the Large Hex Driver Tip (.048" RASHxN) and a torque device.

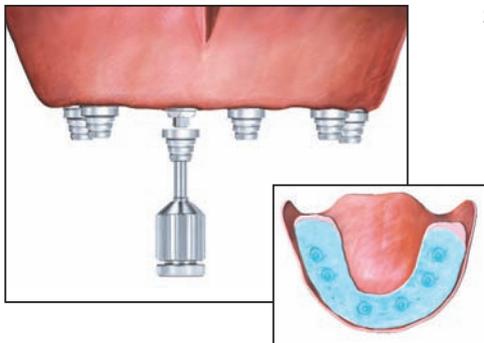
*The design of the External Hex Connection Low Profile Angled Abutments requires the use of a reduced shank size of the Large Hex Drivers and Driver Tip. This design is designated by a laser marking of the part number and a dot. (See page 2 of this manual for a visual illustration of the dot.)

Denture Conversion With QuickBridge® Provisional Components

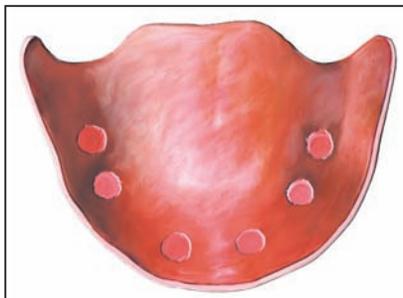


Clinician

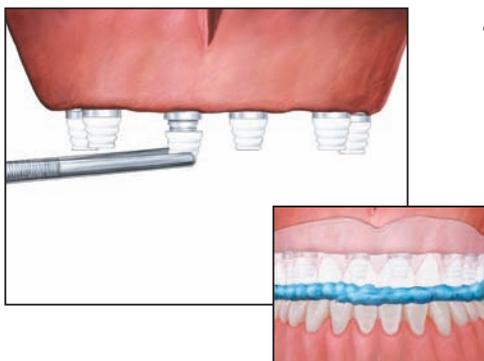
1. Prior to placing the abutments, make an interocclusal registration with the patient's existing denture.



2. Thread a QuickBridge® Titanium Cylinder onto each of the abutments and hand tighten using the Large Hex Driver (.048" PHDOxN). Torque the cylinders to 10Ncm using a Large Hex Driver Tip (.048" RASHxN) and a torque device. Place fast setting impression material into the ridge area of the denture, insert it into the mouth and press lightly over the QuickBridge® Titanium Cylinder assemblies to mark their locations. Allow the impression material to set per the manufacturer's instructions.



3. Remove the denture from the mouth. Drill through the areas where the indentations are in the impression material with an acrylic bur. Remove the impression material from the denture. Relieve the areas marked approximately 6.0mm in depth to allow for the height of the QuickBridge® Components. Make sure the vertical dimension of occlusion has not been changed.



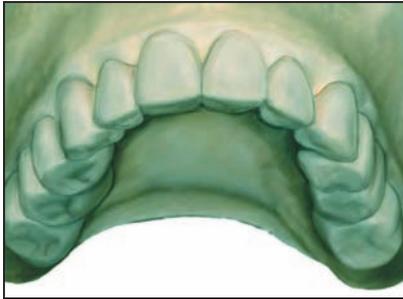
4. Snap the QuickBridge® Caps onto the QuickBridge® Titanium Cylinders. Try in the denture over the QuickBridge® Caps to verify that there is no interference and it is completely seated. Place self curing acrylic resin into the retention facets on each QuickBridge® Cap and fill the relieved areas of the denture with acrylic resin. Seat the denture over the QuickBridge® Caps and have the patient close into occlusion using the interocclusal registration. Verify that the denture is completely seated. Allow the acrylic resin to set per the manufacturer's instructions.

Denture Conversion With QuickBridge® Provisional Components **(Continued)**



5. Remove the denture from the mouth. The QuickBridge® Caps will remain inside the denture. Remove the palate and flanges from the denture using an acrylic bur. Fill any voids around the QuickBridge® Caps with self curing acrylic resin. Finish and polish the denture. Place a small amount of temporary cement into the QuickBridge® Caps and seat the provisional prosthesis on the QuickBridge® Titanium Cylinders. Have the patient close into occlusion. Remove excess cement from around the margin areas of each cap. Allow the cement to set per the manufacturer's instructions. Adjust the occlusion as necessary.

QuickBridge® Provisional Restoration



Clinician

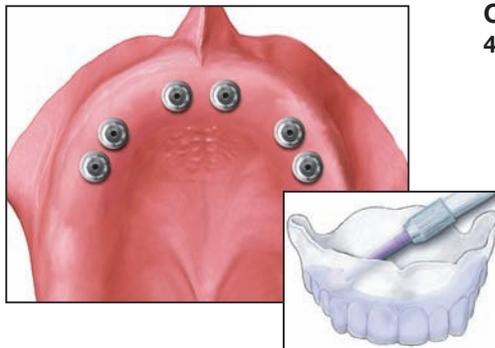
1. Make an impression of the patient's existing fixed bridge or denture and the opposing arch. Make a bite registration.

Laboratory

2. Pour stone casts of the impressions. Articulate the stone casts using the bite registration.

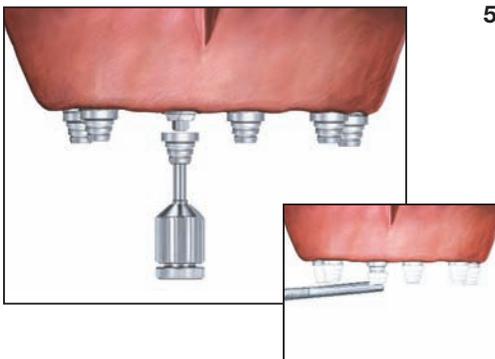


3. Make a vacuum formed template over the stone cast. A 2.0mm thick flexible vacuum formed material is recommended. Remove the template from the stone cast and trim away excess material. Leave the palate and flanges on the template. Make an interocclusal registration between the template and the opposing cast using the articulator.



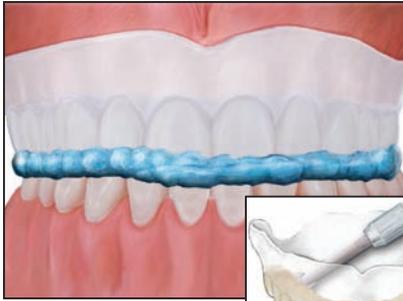
Clinician

4. Fill the tooth portion of the vacuum formed template with impression material and place it in the mouth over the Low Profile Abutments. Have the patient close into the interocclusal registration and allow the impression material to set. Remove the impression material from the template. Place the impression material replica of the teeth in the mouth and verify the occlusion and tooth position. Set aside the replica of the teeth for the laboratory to use as a guide when fabricating the definitive restoration.



5. Thread a QuickBridge® Titanium Cylinder onto each of the Low Profile Abutments and hand tighten using the Large Hex Driver (.048" PHDOxN). Torque the cylinders to 10Ncm using the Large Hex Driver Tip (.048" RASHxN) and a torque device. Snap the QuickBridge® Caps onto the QuickBridge® Titanium Cylinders.

QuickBridge® Provisional Restoration (Continued)



6. Add self curing acrylic resin into the retention facets on the QuickBridge® Caps and into the tooth portion of the template. Place the template into the mouth over the QuickBridge® Caps and have the patient close into the interocclusal registration. Allow the acrylic resin to set per the manufacturer's instructions.



7. Remove the template from the mouth. The QuickBridge® Caps will remain in the acrylic resin. Remove the provisional prosthesis from the template. Remove the excess acrylic from around the margin areas and fill in any voids. Finish the provisional restoration to the desired contour and polish.



8. Place the provisional restoration into the mouth and snap the QuickBridge® Caps onto the Titanium Cylinders. Verify the fit and aesthetics. Adjust the occlusion as necessary. Remove the provisional restoration. Place a small amount of temporary cement into the QuickBridge® Caps and seat the provisional prosthesis on the QuickBridge® Titanium Cylinders. Have the patient close into occlusion. Remove excess cement from around the margin areas of each cap. Allow the cement to set per the manufacturer's instructions. Adjust the occlusion as necessary.

QuickBridge® And Temporary Cylinder Provisional Restoration With CT Guided Surgery

For Certain® Internal Connection Only



Laboratory

1. After fabricating a master cast from the Navigator® Surgical Guide and Analog Mounts, place the scanning appliance on the cast and make a vacuum formed template over it. A 2.0mm thick flexible vacuum formed material is recommended. Place the selected Low Profile Abutments into each analog.

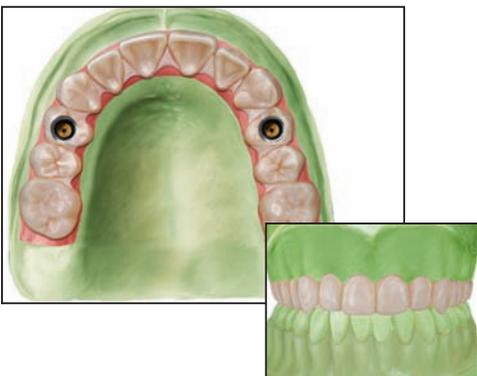


Provisional Restoration Fabrication

2. Select one abutment in an area with the most dense bone to process a Low Profile Temporary Cylinder into the provisional. Select another abutment area across the arch where a Temporary Cylinder will be processed into the provisional chairside. Place a Low Profile Temporary Cylinder on the two selected abutments and secure these into place using retaining screws and the Large Hex Driver (.048" PHDOxN). Thread a QuickBridge® Titanium Cylinder on each of the remaining abutments and hand tighten using the Large Hex Driver (.048" PHDOxN). Place a QuickBridge® Cap on each cylinder and press down firmly until fully seated. Block out the retention facets on the QuickBridge® Caps and the Temporary Cylinder that will be picked-up intraorally with wax.



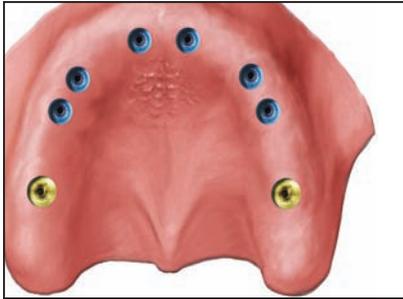
3. Place the vacuum formed template onto the master cast and drill holes in the areas over the Temporary Cylinders. Verify there is no interference with it seating completely. Using a carbide bur, reduce the Temporary Cylinders as necessary so that these fit within the template. Seal the cylinder access holes with wax or putty. Place the cast back on the articulator. Add acrylic resin into the retention facets on the selected cylinder and fill the tooth portion of the template with acrylic resin. Fully seat the template on the cast over the Temporary Cylinders and QuickBridge® Caps using the articulation. Allow the acrylic to set per the manufacturer's instructions.



4. Clear the cylinder access hole and remove the retaining screw from the selected Low Profile Temporary Cylinder. Remove the template from the cast over the remaining cylinder and the QuickBridge® Caps, with the Low Profile Temporary Cylinder remaining inside the acrylic. Remove the provisional from the template. Remove all excess acrylic from around the margin areas of the provisional and the access holes. Relieve the holes for the Temporary Cylinder and the QuickBridge® Caps as necessary so that the provisional can be placed over these and removed easily. Fill in any voids. Finish the bridge to the desired contour and polish. Remove the wax from the Temporary Cylinder and the QuickBridge® Caps and return these with the case for chairside pick up.

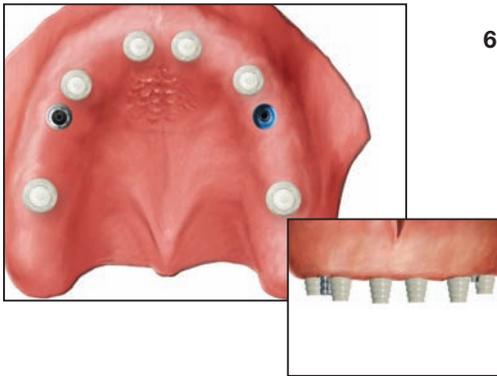
QuickBridge® And Temporary Cylinder Provisional Restoration With CT Guided Surgery (Continued)

For Certain® Internal Connection Only



CT GUIDED SURGICAL IMPLANT PLACEMENT Clinician

5. Place the implants using the surgical guide and following the surgical plan provided by the guide manufacturer.



Post Surgical Delivery of Provisional Restoration

6. Place each Low Profile Abutment into the implants, one by one, in the proper locations. Try in the provisional restoration over the abutments and verify that each abutment fits within the teeth. Verify an accurate fit of each abutment by visualizing the interfaces or by taking a radiograph. Torque the Abutment Screws to 20Ncm using the Abutment Driver Tip and a torque device. Place the Low Profile Temporary Cylinder onto the abutment on the opposite side of the arch from the laboratory processed cylinder and secure it into place with a retaining screw. Seal the access hole with impression material. Place a QuickBridge® Titanium Cylinder on each of the abutments using the Large Hex Driver (.048" PHDOxN) except for the abutment with the selected laboratory processed Temporary Cylinder. Place a QuickBridge® Cap on each cylinder and press down firmly until fully seated. Try in the provisional over the temporary cylinder and the QuickBridge® Caps and secure it into place by threading a retaining screw through the laboratory processed cylinder. Verify that it fits to the cylinder and cap margins properly without interference.



7. If a flap procedure was used during surgery, suture the tissue around the Low Profile Abutments. Place acrylic resin into the retention facets on the temporary cylinder and into the cylinder area on the provisional. Seat the provisional over the cylinder and secure it into place by threading a retaining screw through the lab processed temporary cylinder. Have the patient close into occlusion. Allow the acrylic to set per the manufacturer's instructions. Remove the retaining screws and remove the provisional. Place acrylic resin into the retention facets on each QuickBridge® Cap and into each cap area on the provisional. Seat the provisional over the caps and secure it into place by threading retaining screws through the two temporary cylinders. Have the patient close into occlusion. Allow the acrylic to set.

QuickBridge® And Temporary Cylinder Provisional Restoration With CT Guided Surgery (Continued)

For Certain® Internal Connection Only



8. Remove the retaining screws and remove the provisional restoration. Fill in any voids. Remove any excess acrylic and polish.



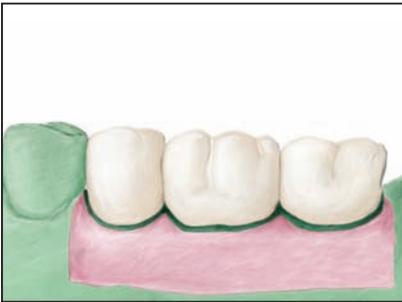
9. Place a small amount of temporary cement into the QuickBridge® Caps. Seat the provisional on the Low Profile Abutments and snap it over the QuickBridge® Cylinders. Screw the provisional into place with Low Profile Gold-Tite® Retaining Screws using the Large Hex Driver (.048" PHDOxN). Torque the screws to 10Ncm using the Large Hex Driver Tip (.048" RASHxN) and a torque device. Have the patient close into occlusion. Remove any excess cement from around the margin areas of each cap. Allow the cement to set per the manufacturer's instructions. Place a temporary filling material in the access holes and seal these with composite resin. Adjust the occlusion as necessary.

Multi-Unit Temporary Cylinder Provisional Restoration - Indirect Technique



Restorative Dentist

1. Follow the steps in the Restorative Manual for Abutment Level Impressions on pages 11-13 for the Pick-Up Technique and pages 14-16 for the Twist Lock™ Transfer Technique.

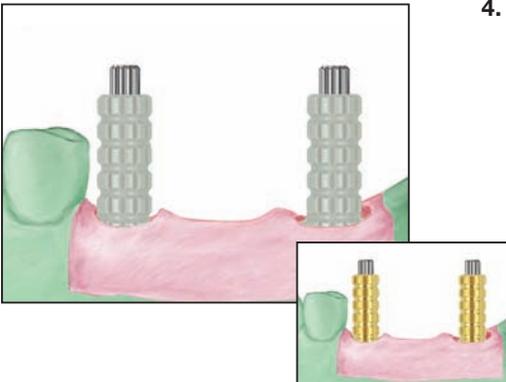


Laboratory

2. Set denture teeth on the cast where the multi-unit bridge will be fabricated.

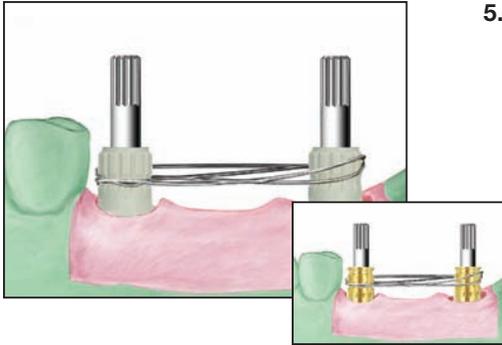


3. Make a vacuum formed template over the denture teeth and adjacent teeth. Remove the template, denture teeth and wax from the cast.



4. Select and place the proper diameter **Non-Hexed** Low Profile Temporary Cylinders onto the abutment analogs. Thread the Low Profile Waxing Screws into the analogs until finger tight using a Large Hex Driver (.048" PHDOxN).

Multi-Unit Temporary Cylinder Provisional Restoration - Indirect Technique (Continued)



5. Reduce or adjust the cylinders as necessary. The cylinders may be connected with ortho wire or a strengthening frame may be waxed and cast to support a pontic. Block out any undercuts apical to the contact areas of the adjacent teeth.



6. Cut holes in the template for the Low Profile Waxing Screws to come through. Add acrylic resin to the cylinders and inside the template to form the provisional bridge. Seat the template on the cast. Allow the acrylic to set per the manufacturer's instructions. Remove the waxing screws and the template from the cast. Remove the provisional bridge from the template. Fill in any voids around the cylinders. Polishing protectors or analogs may be used to avoid acrylic flow onto the interfaces. Contour and polish the bridge. Place the bridge back on the cast and thread Low Profile Titanium Retaining Screws into the analogs using the Large Hex Driver (.048" PHDOxN) until finger tight. Adjust the occlusion as necessary.



Restorative Dentist

7. Remove the healing caps from the Low Profile Abutments using a Large Hex Driver (.048" PHDOxN). To help prevent accidental swallowing, thread floss through the spinner on the driver. Place the multi-unit provisional bridge onto the abutments. Thread Hexed Titanium Low Profile Retaining Screws into the implants until finger tight using the Large Hex Driver (.048" PHDOxN).

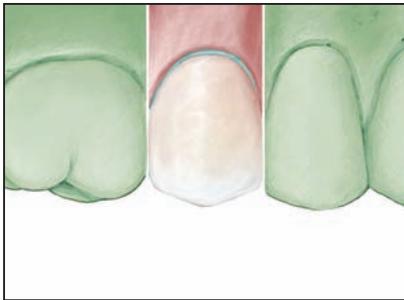
Check the interproximal and occlusal contacts. Torque the screws to 10Ncm using a Large Hex Driver Tip (.048" RASHxN) and a torque device. Place a protective material over the screw heads. Seal the access holes with temporary filling material and composite resin. Make any occlusal adjustments necessary.

Single-Unit Temporary Cylinder Provisional Restoration - Indirect Technique



Restorative Dentist

1. Follow the steps in the Restorative Manual for Abutment Level Impressions on pages 11-13 for the Pick-Up Technique and pages 14-16 for the Twist Lock™ Transfer Technique.

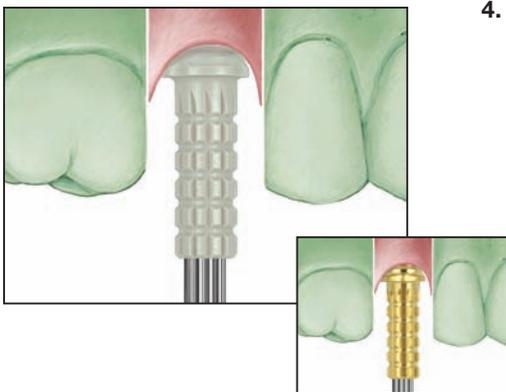


Laboratory

2. Set a denture tooth in wax on the cast where the tooth is missing.

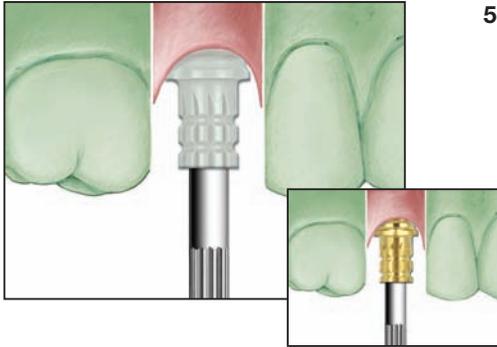


3. Make a vacuum formed template over the denture tooth and adjacent teeth on the cast. Remove the template, denture tooth and wax from the cast.

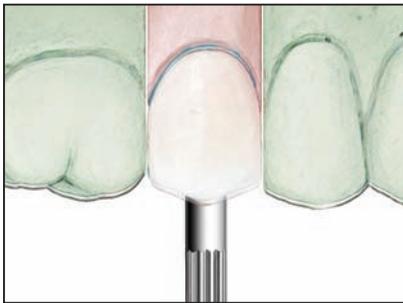


4. Select the proper diameter **Hexed** Temporary Cylinder for the Low Profile Abutment. Place it onto the abutment analog and line up the hex. Thread a Low Profile Waxing Screw into the analog until finger tight using a Large Hex Driver (.048" PHDOxN).

Single-Unit Temporary Cylinder Provisional Restoration - Indirect Technique (Continued)



5. Reduce or adjust the cylinder as necessary. Block out any undercuts apical to the contact areas of the adjacent teeth.



6. Cut a hole in the template for the Low Profile Waxing Screw to come through. Add acrylic resin to the cylinder and template and seat the template on the cast to form the single-unit provisional crown. Allow the acrylic resin to set per the manufacturer's instructions. Remove the waxing screw and template from the cast. Remove the provisional crown from the template. Use polishing protectors or analogs to avoid acrylic flow into the cylinder. Fill any voids around the subgingival area. Contour and polish the crown. Place the crown back onto the cast and thread a Low Profile Titanium Retaining Screw into the analog using a Large Hex Driver (.048" PHDOxN) until finger tight. Adjust occlusion as necessary.



Restorative Dentist

7. Remove the Low Profile Healing Cap from the Low Profile Abutment using a Large Hex Driver (.048" PHDOxN). To help prevent accidental swallowing, thread floss through the spinner on the driver.



8. Place the single-unit provisional crown on the Low Profile Abutment, engaging the hex.

Thread the Titanium Retaining Screw into the implant until finger tight using the Large Hex Driver (.048" PHDOxN). Check the interproximal and occlusal contacts. Torque the retaining screw to 10Ncm using a Large Hex Driver Tip (.048" RASHxN) and a torque device. Place a protective material over the screw head. Seal the access hole with a temporary filling material and composite resin. Make any occlusal adjustments necessary.

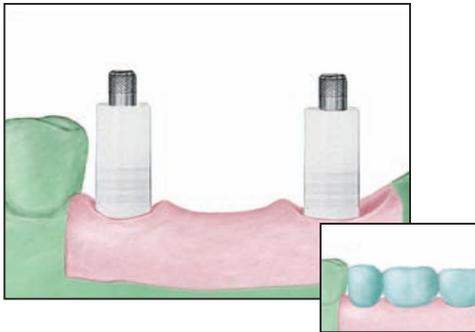
Note: Temporary Cylinders are available in both PEEK and Titanium. A direct processing technique may also be used to create the provisional restoration.

Low Profile Abutment Definitive Restoration (Single or Multi-Unit)



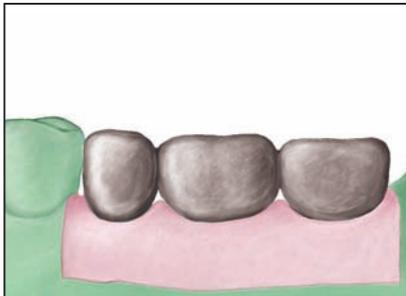
Restorative Dentist

1. Follow the steps in the Restorative Manual for Abutment Level Impressions on pages 11-13 for the Pick-Up Technique and pages 14-16 for the Twist Lock™ Transfer Technique.



Laboratory

2. Place the **Non-Hexed** (multi-unit restoration) or **Hexed** (single-unit restoration) Low Profile Gold or Castable Cylinder(s) onto the Low Profile Analog(s) and thread Low Profile Retaining or waxing screw(s) into the analog(s) until finger tight using a Large Hex Driver (.048" PHDOxN). Reduce or adjust the cylinder(s) as necessary. Wax the PFM crown coping or framework to the waxing sleeves.



3. Remove the Low Profile Retaining or Waxing Screw(s) and carefully remove the wax coping or framework from the analog(s). Invest, burnout and cast the PFM crown coping or framework to the Low Profile Gold or Castable Cylinder(s) using a semi-precious or high noble alloy (casting alloy specifications are on page 18). Divest and finish the coping or framework. For multiple-units, return to the restorative dentist for metal framework try in.

or

Request a CAM StructSURE® CopyMilled Framework for Low Profile Abutments if desired.



Restorative Dentist

4. Remove the healing caps from the abutment(s). Place the PFM framework onto the abutment(s). Thread Low Profile Gold-Tite® Retaining Screw(s) into the posterior most abutment using a Large Hex Driver (.048" PHDOxN). Radiograph the interface on the abutment(s) to verify a passive fit. Repeat the above procedure after removing the posterior screw and place it into the anterior most abutment. Radiograph the interface. Cut and index the framework intraorally if a fit discrepancy is found and return to the laboratory for soldering. Immediately replace the healing cap(s) on the abutment(s).

Low Profile Abutment Definitive Restoration (Single or Multi-Unit) (Continued)



Laboratory

5. Place the crown coping or verified framework back onto the Low Profile Analog(s) in the cast and thread a Low Profile Retaining or Waxing Screw(s) into the analog(s) until finger tight. Opaque and build porcelain on the coping or framework. Stain and glaze the porcelain. Polish with polishing protector(s) in place.



Restorative Dentist

6. Remove the healing cap(s) from the abutment(s). Place the finished prosthesis onto the abutment(s). Thread a Low Profile Gold-Tite® Retaining Screw(s) into the abutment(s) until finger tight using the Large Hex Driver (.048" PHDOxN). Radiograph the interface on the abutment(s) to verify a passive fit. Verify the interproximal contacts and the occlusion. Torque the screw(s) to 10Ncm using a Large Hex Driver Tip (.048" RASHxN) and a torque device. Place a protective material over the screw head(s). Seal the access openings with temporary filling material and composite resin. Make any occlusal adjustments necessary.

Gold Alloy Cylinder Formulation

Melting Range	1400–1490°C (2550–2710°F)
Solidus	1400°C
Liquidus	1490°C
CTE	13.5 x 10 ⁻⁶ °K at 500°C

An alloy with a CTE of 10⁻⁶°K at 500°C is recommended.

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