Tapered IM
surgical system

Catalog & Surgical Manual

BIOHORIZONS®

BIOHORIZONS®

stability where it counts

Tapered Immediate Molar

Tapered IM implants offer a solution for immediate placement in molar extraction sockets, reducing treatment time and patient visits. Available in 7 and 8mm diameters, the implant design features deep aggressive threads for compressive bone loading and primary stability. The reduced collar diameter ensures the implant doesn't deviate from its intended placement location in extraction sites. A platform-switched, dual-affinity, Laser-Lok surface offers crestal bone retention and connective tissue attachment for flexible placement.

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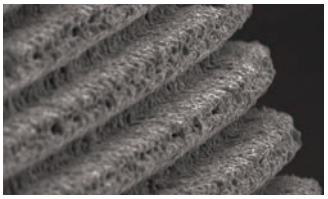
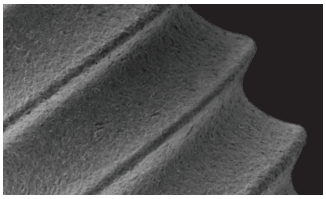
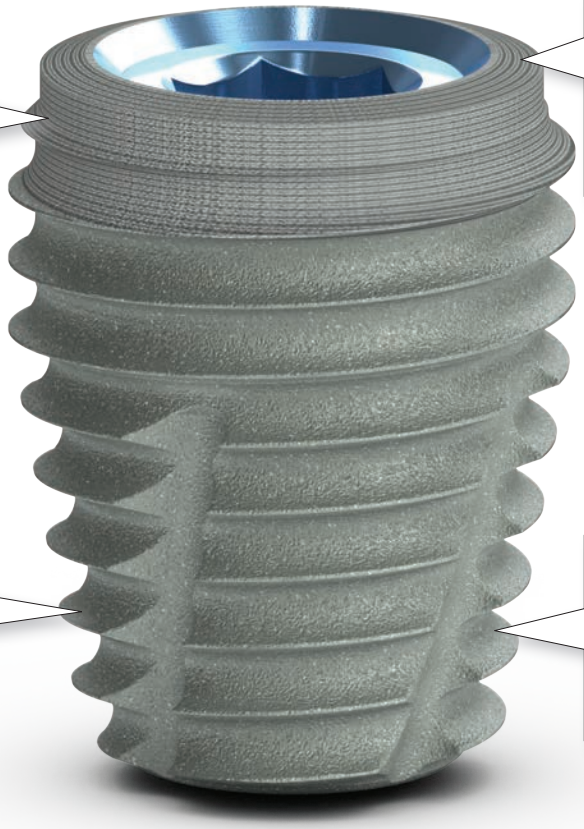
Laser-Lok® zone
creates a connective tissue attachment, retaining crestal bone



optimized threadform
deep, self-tapping buttress threads





platform switching
reduced collar diameter utilizing BioHorizons 5.7mm connection

helical cutting flute
assists self-tapping ability and reduces the need for bone taps

molar sites
Tapered IM implants offer a solution for molar extraction sites

restorative choices
comprehensive line of internally hexed prosthetics for a wide variety of site conditions and restorative protocols

product information & ordering

BioHorizons Tapered Immediate Molar implants are designed to be placed in molar extraction sockets, featuring aggressive buttress threads to assist with primary stability. A narrow collar diameter ensures that the implant maintains it path of insertion during final seating. Tapered IM implants platform-switch to BioHorizons 5.7mm prosthetic platform. The dual affinity Laser-Lok surface offers crestal bone retention and connective tissue attachment for flexible placement.

features:

- aggressive threads provide primary stability even in difficult sites
- dual-affinity Laser-Lok surface for crestal bone retention and connective tissue attachment
- conical internal hex for a rigid connection and stable restoration

Tapered IM Implants with Laser-Lok

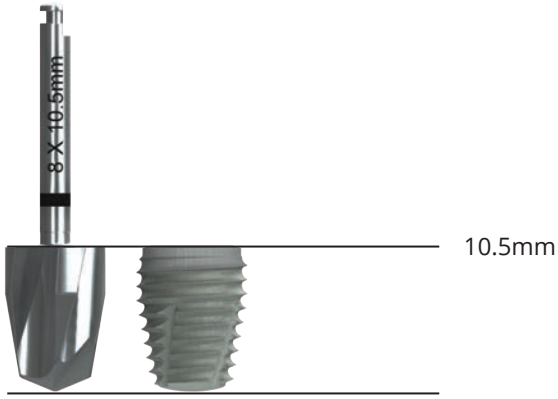
		
body diameter	7mm	8mm
prosthetic connection	5.7mm	5.7mm
Laser-Lok zone	1.8mm	1.8mm
apical diameter	4.9mm	5.9mm
7.5mm length	**TIM7007**	**TIM8007**
9.0mm length	**TIM7009**	**TIM8009**
10.5mm length	**TIM7010**	**TIM8010**

Tapered IM Instruments

Drills

Tapered IM implants can be placed using a combination of BioHorizons Tapered HD drills and new Tapered IM length drills. Length Drills feature cutting flutes that match the length of the implant, acting as a clear visual aid to indicate the appropriate drilling depth. Each drill is laser marked with a single band 3mm from the cutting flute to help identify depth of placement or tissue height.

TIMD7007	Tapered IM Length Drill, 7.0mm x 7.5mm
TIMD7009	Tapered IM Length Drill, 7.0mm x 9.0mm
TIMD7010	Tapered IM Length Drill, 7.0mm x 10.5mm
TIMD8007	Tapered IM Length Drill, 8.0mm x 7.5mm
TIMD8009	Tapered IM Length Drill, 8.0mm x 9.0mm
TIMD8010	Tapered IM Length Drill, 8.0mm x 10.5mm



Try-In Instruments

The Try-In instruments provide a reliable method to determine the appropriate implant size for each extraction socket.

Available in 6 different sizes, these correspond to the 6 Tapered IM implants. The depth mark provides a reference for 3mm above the implant platform.

TRYTIMD7007	Tapered IM Try-In, 7.0mm x 7.5mm
TRYTIMD7009	Tapered IM Try-In, 7.0mm x 9.0mm
TRYTIMD7010	Tapered IM Try-In, 7.0mm x 10.5mm
TRYTIMD8007	Tapered IM Try-In, 8.0mm x 7.5mm
TRYTIMD8009	Tapered IM Try-In, 8.0mm x 9.0mm
TRYTIMD8010	Tapered IM Try-In, 8.0mm x 10.5mm

Ancillary Instruments

Tapered HD Surgical Kit

TSK4000	Tapered HD Surgical Kit

Includes the instrumentation required to place:
Tapered Plus, Tapered 3.0, Tapered Tissue Level and Tapered Internal including the 3.4mm diameter and 18mm lengths.

Bur Block

DB12	Bur Block

Autoclavable bur block used to store up to 12 instruments.

Implant Driver

TBIDH	5.7mm HD Implant-level Driver, Handpiece
TBIDR	5.7mm HD Implant-level Driver, Ratchet

Ratchet

130-000	Ratchet

Bars

122-110	2.0mm Lindemann Bone Cutter

Side-cutting drill used to correct eccentric osteotomy preparations.

122-106	#6 Round Bur
TIM5RB	Tapered IM 5.0mm Round Bur

Ancillary Instruments

Torque Wrenches

BIOTORQ — **BioHorizons Adjustable Torque Wrench**

Adjustable torque wrench designed to attach to all 4mm drivers from BioHorizons. Supplied with a dual direction mechanism that allows for insertion and removal functions. When the desired torque is reached (a choice of 10Ncm to 30Ncm) the torque wrench snaps to avoid over torquing.

ATW — **ITL Precise Adjustable Torque Wrench**

Place both implants and abutments with 9 distinct torque settings (15, 20, 25, 30, 35, 40, 45, 50 and 60 Ncm). A simple twist of the handle locks in precision-engineered torque values and guarantees accuracy and repeatability.

AGYR-15500 — **Torque Control 15500**

Ergonomic design is the ideal solution for access to screws placed in the posterior. The 7 predetermined torque values (10, 15, 20, 25, 30, 32 and 35 Ncm) make it a tool of extreme precision.

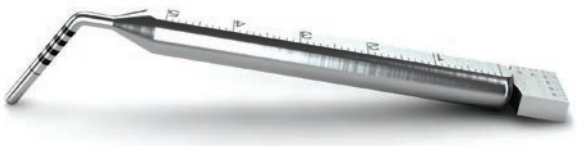
C12374 — **Elos Adjustable Torque Wrench**

Lightweight titanium design is easy to use as an adjustable torque wrench or a ratchet. Quickly disassembles for cleaning. No calibration required.

C8521 — **Elos Replacement Bit, 4mm Square Adapter**

C8381 — **Elos Replacement Bit, Handpiece**

Implant Spacer / Depth Probe

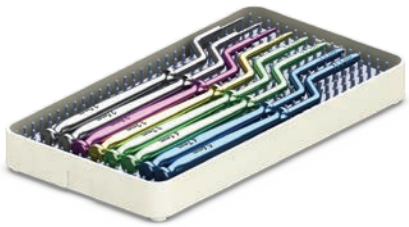


144-300 — **Implant Spacer / Depth Probe**

Use to provide intraoral measurements. Multi-functional tool for marking implant spacing on the ridge and probing osteotomy depth.

Ancillary Instruments

Tapered Offset Dilator Kit



TODKIT2	Tapered Offset Site Dilator Kit

The Tapered Implant site dilators match the geometry of the Tapered surgical drills and are used to create or enlarge osteotomies in soft maxillary bone. These instruments compress the bone laterally rather than removing valuable bone from the surgical site, creating a more dense bone-to-implant interface.

Osstell IDx

OSS-103000	Osstell Beacon

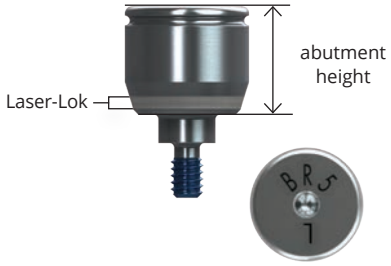
The Osstell Beacon provides an objective and non-invasive method to determine implant stability in a matter of seconds. Measurements are calculated using Resonance Frequency Analysis (RFA) technology, which is based on over 1000 scientific studies.

Osstell SmartPegs (packs of 5)

OSS-100425	3.0mm platform
OSS-100440	3.5mm platform
OSS-100431	4.5mm platform
OSS-100442	5.7mm platform

Healing Abutments & Cover Caps

Laser-Lok Healing Abutments

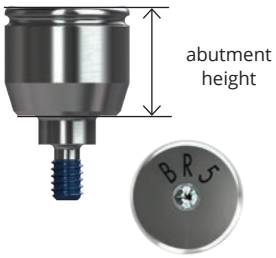


Use Laser-Lok healing abutments when a Laser-Lok abutment restoration is planned to inhibit epithelial downgrowth, establish a soft tissue seal and protect the bone. Refer to the Prosthetic Technique Manual (L02015) for appropriate handling techniques.

B = Blue (5.7mm) platform
N or R = Narrow or Regular emergence
3 or 5 = 3mm or 5mm abutment height
L = Laser-Lok

	3mm height	5mm height	platform	abutment diameter
Narrow	**PBNHA3L**	**PBNHA5L**	5.7mm, Laser-Lok	6.0mm
Regular	**PBRHA3L**	**PBRHA5L**	5.7mm, Laser-Lok	6.5mm

Standard Healing Abutments



Hand-tighten with the .050" (1.25mm) Hex Driver. Titanium Alloy.

The 5.7mm healing abutments are laser marked for easy intraoral identification of the prosthetic platform, emergence and height:

B = Blue (5.7mm) platform
N, R or W = Narrow, Regular or Wide emergence
1, 2, 3 or 5 = 1mm, 2mm, 3mm or 5mm abutment height

	1mm height	2mm height	3mm height	5mm height	platform	abutment diameter
Narrow	**PBNHA1**	**PBNHA2**	**PBNHA3**	**PBNHA5**	5.7mm	6.0mm
Regular	-	**PBRHA2**	**PBRHA3**	**PBRHA5**	5.7mm	6.5mm
Wide	-	-	**PBWHA3**	**PBWHA5**	5.7mm	8.0mm

Cover Cap

PBCC **5.7mm Cover Cap**

Use during submerged surgical healing. Hand-tighten with the .050" (1.25mm) Hex Driver. Titanium Alloy. Included with implant but can also be ordered separately.

Temporary Abutments

authentic connection

Using authentic BioHorizons parts will ensure a precision fit connection between the prosthetic component and implant, avoiding costly component failures that may occur from using third-party prosthetics. Authentic BioHorizons parts are color-coded for easy identification to match the mating implant.

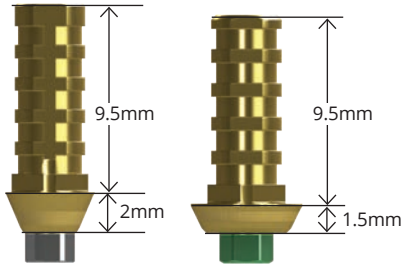
advantages:

- lifetime warranty on all implants and prosthetics
- Spiralock® technology minimizes screw loosening
- precise mating geometries reduce prosthetic failures
- advanced design creates a better engineered connection
- color-coded prosthetic components match implant platforms

Laser-Lok Easy Ti Temp Abutments

hexed	non-hexed	platform
TP3ETHL	**TP3ETNL**	3.0mm
PYETHL	**PYETNL**	3.5mm
PGETHL	**PGETNL**	4.5mm
PBETHL	**PBETNL**	5.7mm

Use hexed for single-unit screw retained, long term temporary restorations that require superior esthetics (>30 days). Use non-hexed for multiple-unit, screw retained, long term temporary restorations (>30 days). Packaged with an abutment screw (PXAS). Titanium Alloy for strength. TiN coated for esthetics. Final torque: 30Ncm. Refer to the Prosthetic Technique Manual (L02015) for appropriate handling techniques

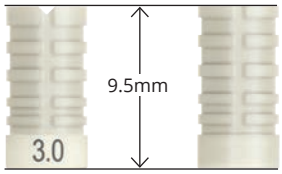


3.0 platform | all other platforms

Easy Ti Abutment Sleeves

TP3ETPS	**Pick-up Sleeve, 3.0mm (pack of 3)**
PXETPS	**Pick-up Sleeve (pack of 3)**

Use for fabrication of cement-retained provisional restorations (up to 30 days). Packaged in packs of three. PEEK (PolyEtherEtherKetone) material.



3.0 platform | all other platforms

PEEK Temporary Cylinder Abutments

hexed	non-hexed	platform
TP3PTC	**TP3PTCN**	3.0mm
PYPTC	**PYPTCN**	3.5mm
PGPTC	**PGPTCN**	4.5mm
PBPTC	**PBPTCN**	5.7mm

Use for fabrication of cement- or screw-retained provisional restorations (up to 30 days). A direct coping screw (PXDCS, purchased separately) may be used to maintain screw access hole during fabrication of screw-retained provisional prostheses. Packaged with an abutment screw (PXAS). PEEK (PolyEtherEtherKetone) material. Final torque: 30Ncm.

3.0 platform | all other platforms

Instructions For Use

This surgical manual serves as a reference for using the Tapered IM implants and surgical instruments. It is intended solely to provide instructions on the use of BioHorizons products. It is not intended to describe the methods or procedures for diagnosis, treatment planning, or placement of implants, nor does it replace clinical training or a clinician's best judgment regarding the needs of each patient. BioHorizons strongly recommends appropriate training as a prerequisite for the placement of implants and associated treatment.

The procedures illustrated and described within this manual reflect idealized patient presentations with adequate bone and soft tissue to accommodate implant placement. Molar extraction sockets create irregular sites for implant placement, requiring varying surgical protocols. No attempt has been made to cover the wide range of actual patient conditions that may adversely affect surgical and prosthetic outcomes. **Clinician judgment as related to any specific case must always supersede any recommendations made in this or any BioHorizons literature.**

Before beginning any implant surgical procedure with BioHorizons implants:

- **Read and understand the Instructions for Use that accompany the products.**
- **Clean and sterilize the surgical tray and instruments per Instructions for Use.**
- **Become thoroughly familiar with all instruments and their uses.**
- **Study surgical kit layout and iconography.**
- **Design a surgical treatment plan to satisfy the prosthetic requirements of the case.**

Indications

Tapered IM Implants are intended for use in the mandible or maxilla as an artificial root structure for single tooth replacement or for fixed bridgework and dental retention. The implants may be restored immediately:

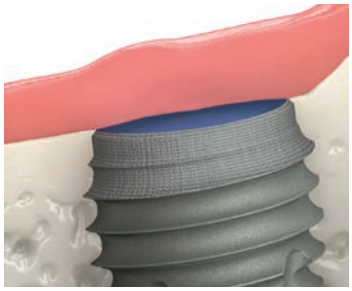
1) with a temporary prosthesis that is not in functional occlusion or
2) when splinted together for multiple tooth replacement or when stabilized with an overdenture supported by multiple implants.

The implants may be placed in immediate function when good primary stability has been achieved and with appropriate occlusal loading.

Tapered IM Implants (1) are limited to the molar region; (2) restricted to only one implant per molar extraction site; (3) are to be placed 3-5mm from adjacent implants or teeth, with the distance from the apical extent of the implant to adjacent implant or implant to tooth contact point should be 3mm to coronal to the alveolar crest; (4) should be at least 1.5mm from buccal or lingual alveolar surfaces to permit adequate integration; and, (5) are used when the surgeon has determined that the placement of a narrower diameter implant would increase the probability of failure due to poor primary stability, or increased surgical procedures leading to complications.

Surgical Protocols

Two-stage Protocol



Implant with cover cap in a two-stage protocol.

In a two-stage surgery, the implant is placed below the soft tissue and protected from occlusal function and other forces during osseointegration. A low-profile cover cap is placed on the implant to protect it from the ingress of soft tissue.

Following osseointegration, a second procedure exposes the implant and a transmucosal healing abutment is placed to allow for soft tissue healing and development of a sulcus. Prosthetic restoration begins after soft tissue healing.

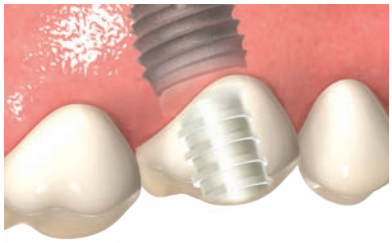
Single-stage Protocol

Implant with healing abutment in a single-stage protocol.

Single-stage surgery may be accomplished by placing a healing abutment at the time of implant surgery. This eliminates the need for a second procedure. Although the implant is not in occlusal function, some forces can be transmitted to it through the exposed transmucosal element.

Prosthetic restoration begins following osseointegration of the implant and soft tissue healing.

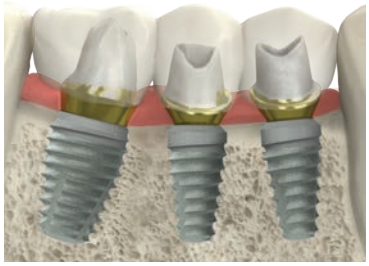
Non-functional Immediate Restoration



Implant restored with a non-functional provisional prosthesis.

Single-stage surgery with non-functional immediate provisionalization provides the patient a non-functioning provisional prosthesis early in the treatment plan. An abutment is placed on the implant at or shortly after surgery, and a provisional restoration is secured using temporary cement. The provisional can help contour the soft tissue profile during healing.

Immediate Function Restoration

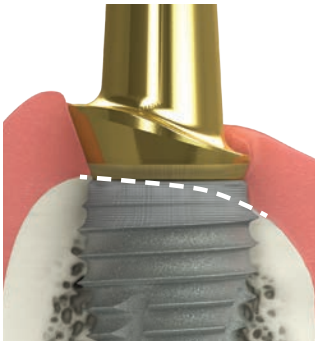


Implants with a splinted prosthesis in immediate function.

Single-stage surgery with immediate function is possible in good quality bone where multiple implants exhibiting excellent initial stability can be splinted together. Splinting implants together may offer a biomechanical advantage over individual, unsplinted prostheses.

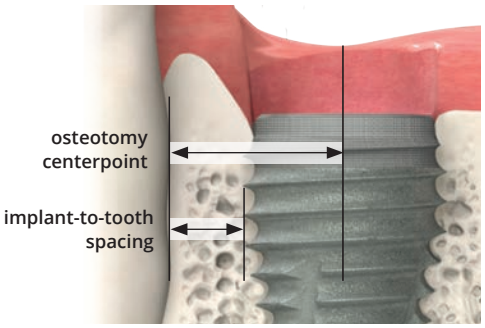
Implant Placement Level & Spacing

Placement in Uneven Ridges



When placing the implant in an uneven ridge, prepare the osteotomy and place the implant so the bone/soft-tissue junction is within the Laser-Lok transition zone. This will allow both soft tissue and bone to attach to the Laser-Lok collar. If the ridge discrepancy is more than the Laser-Lok transition zone, leveling the ridge can be considered.

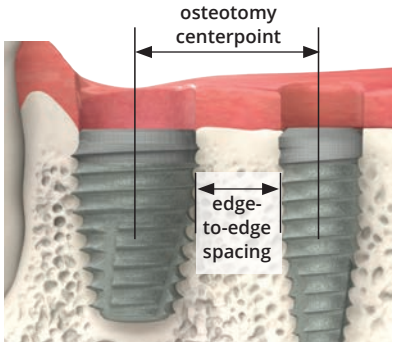
Implant-to-Tooth Spacing



The osteotomy centerpoint required to maintain a specific implant-to-tooth spacing is calculated according to this formula: **1/2 (implant body diameter) + the desired spacing.**

During implant placement, clinicians must apply their best judgment as to the appropriate spacing for individual patient conditions.

Implant-to-Implant Spacing



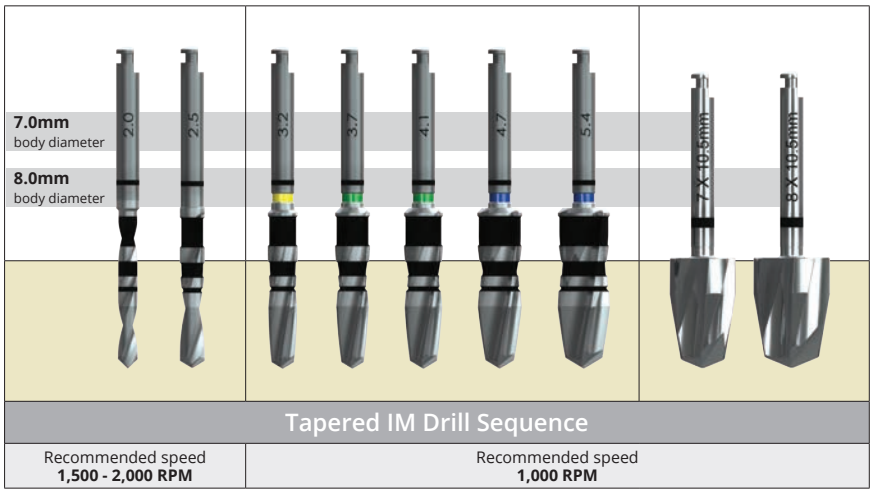
The osteotomy center-to-center measurement required to maintain a specific edge-to-edge spacing between two implants is calculated according to this formula: **1/2 (sum of 2 implant body diameters) + the desired spacing.**

During implant placement, clinicians must apply their best judgment as to the appropriate spacing for individual patient conditions.

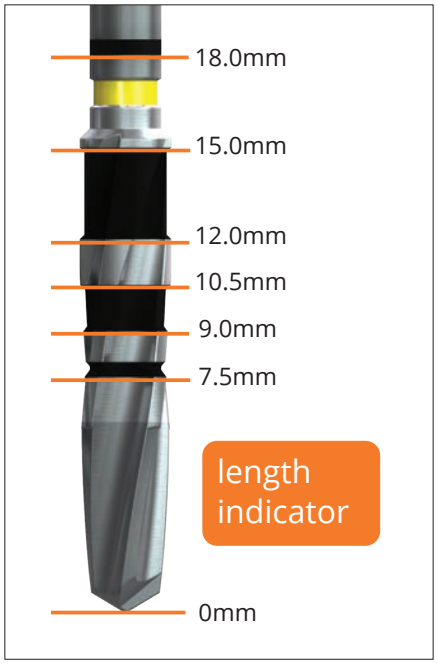
Surgical Instruments & Drill Sequence

Tapered IM Drill Sequence

Full osteotomy preparation can be completed using Tapered HD Drills in combination with Length Drills designed specifically for each implant.



Tapered HD Drills



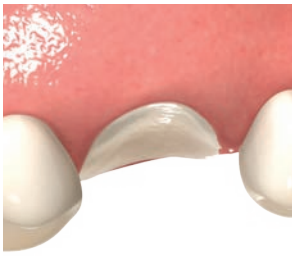
Tapered HD drills feature laser marked bands to identify the appropriate drilling depth.

Tapered IM Length Drills

Length drills are specific to each implant length, featuring cutting flutes that match the length of the implant.

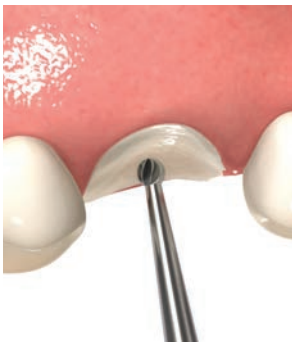
Osteotomy Preparation

Decoronate the Tooth



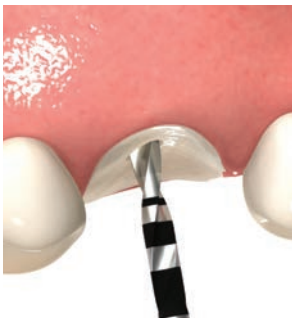
To help initiate the osteotomy in the ideal location, the tooth may be decoronated, leaving the roots in place

Round Bur



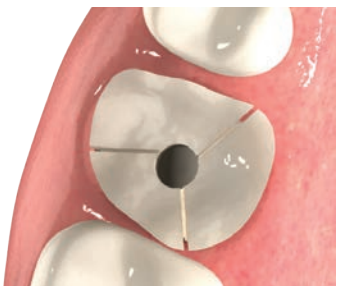
Identify the ideal location for implant placement and initiate the osteotomy using a round bur

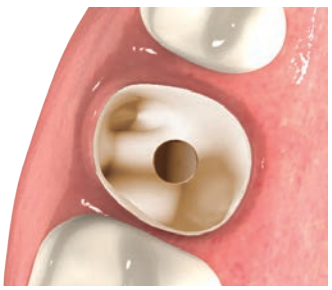
2.0 & 2.5mm HD Drills



Purpose: Initiate osteotomy
- Matte finish for increased visibility under operatory lights
- 1,500 - 2,000 RPM

Removal of Remaining Roots

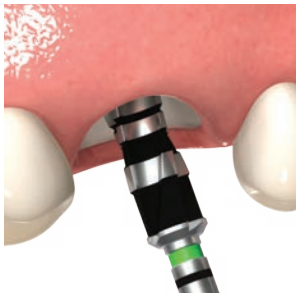




Split and remove the remaining roots, once the osteotomy has been developed as far as possible.

Osteotomy Preparation

HD Drills



Purpose: incrementally widen the osteotomy
- Depth-marked for reference
- Efficient cutting drill design collects bone for autografting
- The drill tip has limited end cutting. However, the osteotomy depth can be increased with these drills as needed
- Matte finish for increased visibility under operatory lights
- Color-coded by implant body diameter
- (gray=3.0mm, purple=3.4mm, yellow=3.8mm, green=4.6mm and blue=5.8mm)
- 1,000 RPM

Length Drills

Purpose: incrementally widen the osteotomy
- Depending on bone density the osteotomy may be finished using Length drills
- Cutting flutes match the length of the implant
- single band 3mm from the cutting flute to help identify depth
- Implant length and diameter laser marked on shank
- 1,000 RPM

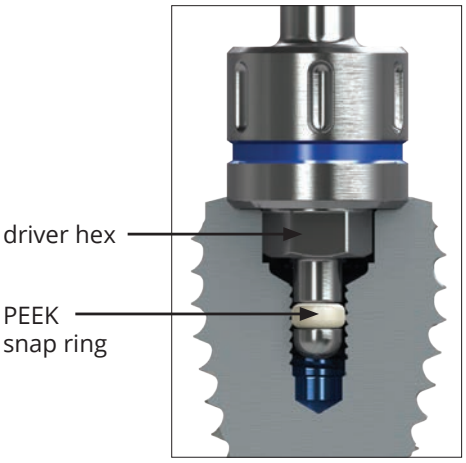
Implant Drivers

Purpose: Engage the implant's internal hex to drive implants into the osteotomy

- Implant level drivers are color-coded by prosthetic connection
- Blue = 5.7mm platform
- 30 rpm or less

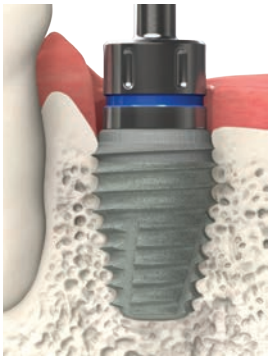
Implant Placement

Implant Pick-up



To pick-up the implant, align the driver hex with the implant hex and press firmly to engage the PEEK snap ring.

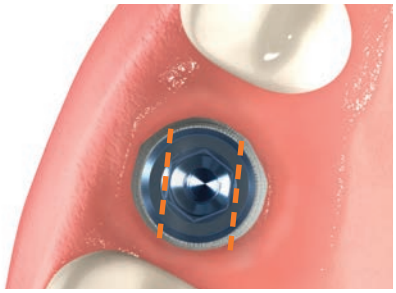
Implant Placement



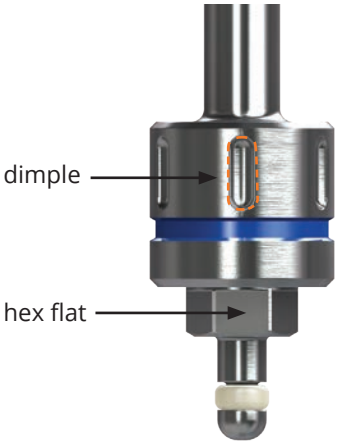
Place the apex of the implant into the osteotomy and begin rotating slowly. The driver hex will engage when the driver is slowly rotated under apical pressure. If too much resistance is felt during insertion, remove the implant and revise the osteotomy with the appropriate crestal bone drill or bone tap as deemed necessary to reduce insertion torque.

⚠ When placing mounted implants, do not exceed 120 Ncm of torque. If torque limit is met prior to full placement, remove the 3inOne abutment and complete placement using an implant-level driver.

Internal Hex Orientation

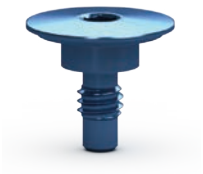


When seating the implant, use the corresponding dimples on the driver to orient one internal hex flat perpendicular to the implant angulation plane. Doing so verifies that an angled abutment will correct the angulation.



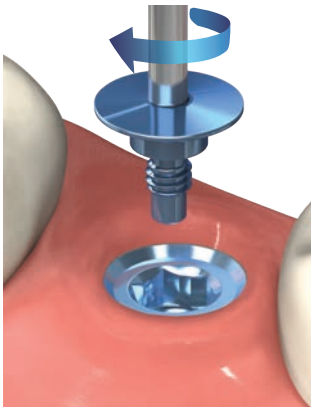
Healing Protocols

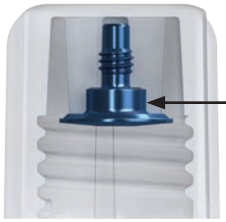
Cover Caps for Two-stage Protocol



Purpose: Protects prosthetic platform in two-stage (submerged) surgical protocol for bone level implants.

- Irrigate implant to remove blood and other debris
- Use an antibacterial paste to decrease the risk of bacterial growth
- Thread clockwise into implant body
- Color-coded by prosthetic platform
- Hand-tighten (10-15 Ncm) utilizing .050" (1.25mm) Hex Driver





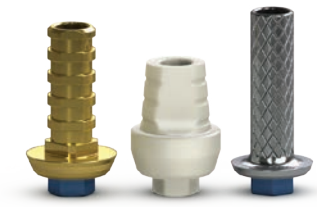
The cover cap for the mount-free implant is mounted in the vial cap.

Healing Abutments for Single-stage Protocol

Purpose: Transmucosal element for developing soft tissue emergence with narrow, regular, wide emergence or Simple Solutions prosthetic components.

- Color-coded by prosthetic platform
- The 3.5, 4.5mm and 5.7mm healing abutments are laser marked for easy intraoral identification; for example: YR3=Yellow (3.5mm) platform / Regular Emergence / 3mm High
- If a Laser-Lok temporary or final restoration is planned, a Laser-Lok healing abutment is required
- Hand-tighten (10-15 Ncm) utilizing .050" (1.25mm) Hex Driver

Immediate Provisional Restorative Options

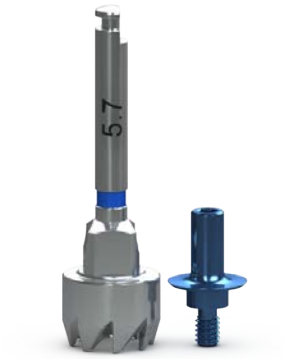


Temporary Abutments

Purpose: Titanium and PEEK temporaries are easily modified for fabrication of cement or screw-retained provisional restorations. A long direct coping screw (purchased separately) may be used to maintain the screw access hole during the fabrication of a screw-retained provisional prosthesis.

Appendix

Bone Profilers



Purpose: In cases where excess crestal bone has been created, use a bone profiler at implant uncovery to contour the bone. This will provide the necessary clearance for proper abutment seating.

- Profiler guide protects implant platform
- Color-coded by prosthetic platform (gray=3.0mm, yellow=3.5mm, green=4.5mm, blue=5.7mm)
- 850-2,500 rpm drill speed with steady sterile irrigation

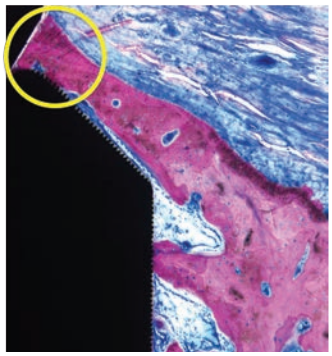
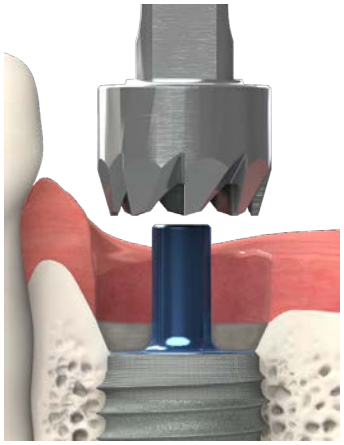


Image showing exceptional bone growth at 3 months. (Myron Nevins, DDS.)



Do not use the profiler without the guide in place.

Using an .050" hex driver, remove the surgical cover cap from the implant and place the profiler guide that matches the color of the prosthetic platform. Use the profiler with copious amounts of sterile irrigation. Once the excess bone and soft tissue are removed, unscrew the guide and seat the appropriate prosthetic component.

Post-operative Instructions

A period of unloaded healing time is often recommended to allow for integration between the bone and implant surface. This is dependent on individual patient healing rates and bone quality of the implant site. Each case must be independently evaluated.

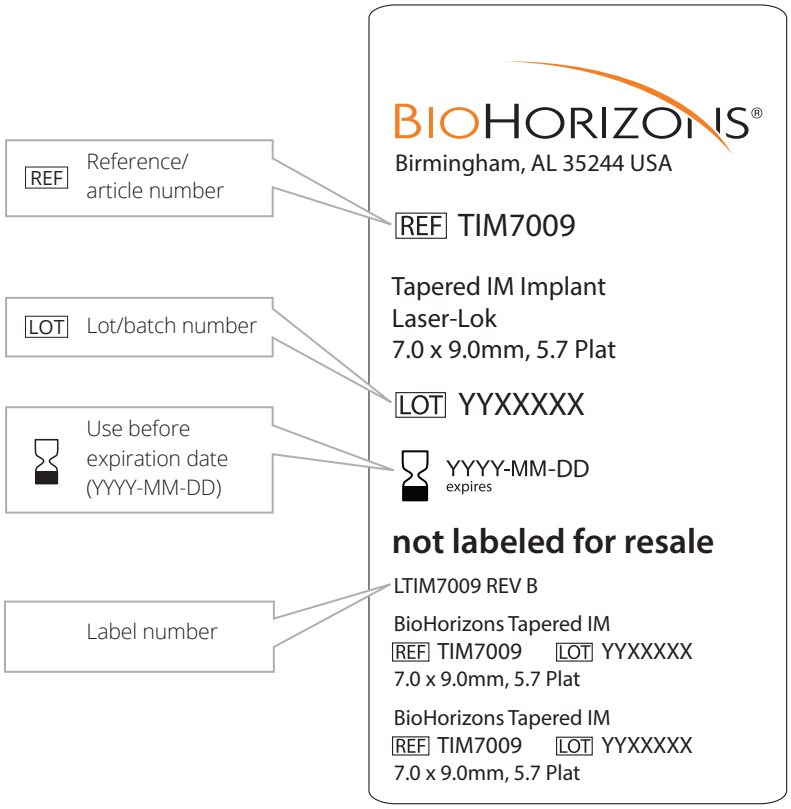
The patient should be instructed to follow a post-surgical regimen including cold packs for 24 hours post-implantation. The patient's diet should consist of soft foods and possibly dietary supplements. Pharmacological therapy should be considered as the patient's condition dictates.

If a removable prosthesis is used during the initial healing phase, a soft liner material should be used to prevent pressure on the surgical site. Relieve the prosthesis over the implant site prior to the soft liner application. Periodically check the patient's soft tissue and bone healing using clinical and radiographic evaluations.

Ongoing hygiene for the implant patient is vital. Hygiene recall appointments at three month intervals are suggested. Instruments designed for implant abutment scaling, such as Implacare® instruments from Hu-Friedy® should be utilized. The stainless steel handles may be fitted with assorted tip designs for hygiene on natural teeth. The Implacare® scalers contain no glass or graphite fillers that can scratch titanium implant abutments.

Icon Legend

Symbol Descriptions for Product Labeling



Notes

Ordering & Warranty Information

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email and/or fax: _____

BioHorizons Lifetime Warranty on Implants and Prosthetics for Clinicians: All BioHorizons implants and prosthetic components include a Lifetime Warranty. BioHorizons implant or prosthetic components will be replaced if removal of that product is due to failure (excluding normal wear to overdenture attachments).

Additional Warranties: BioHorizons warranties surgical drills, taps and other surgical and restorative instruments.

(1) Surgical Drills and Taps: Surgical drills and taps include a warranty period of ninety (90) days from the date of initial invoice. Surgical instruments should be replaced when they become worn, dull, corroded or in any way compromised. Surgical drills should be replaced after 12 to 20 osteotomies.[1]

(2) Instruments: The BioHorizons manufactured instrument warranty extends for a period of one (1) year from the date of initial invoice. Instruments include drivers, implant site dilators and BioHorizons tools used in the placement or restoration of BioHorizons implants.

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References

1. Human histologic evidence of a connective tissue attachment to a dental implant. M Nevins, ML Nevins, M Camelo, JL Boyesen, DM Kim. *International Journal of Periodontics & Restorative Dentistry*. Vol. 28, No. 2, 2008.

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