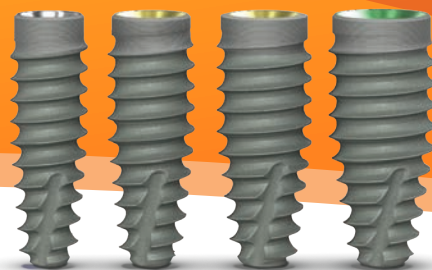




Tapered Pro

catalog & surgical manual





your workflow, your choice

BioHorizons Tapered implants

Every implant treatment presents its own challenge. BioHorizons broad portfolio of Tapered implants provides solutions for all indications. Choose from narrow-diameter 3.0mm implants to wide-diameter immediate molar implants or short 6mm-length implants to 18mm-length implants. Whatever your preference, there's a workflow to suit your need, from fully digital to traditional.



guided workflow

BioHorizons guided surgery system uses an open architecture design, providing compatibility with various software providers and guide manufacturers.*



digital restorative workflow

Custom abutments can be sourced through validated milling centers or designed and fabricated in-house.



traditional workflow

BioHorizons comprehensive surgical kit and wide range of prosthetics support traditional workflows.

learn more at biohorizons.com

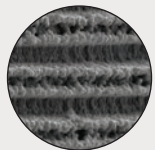
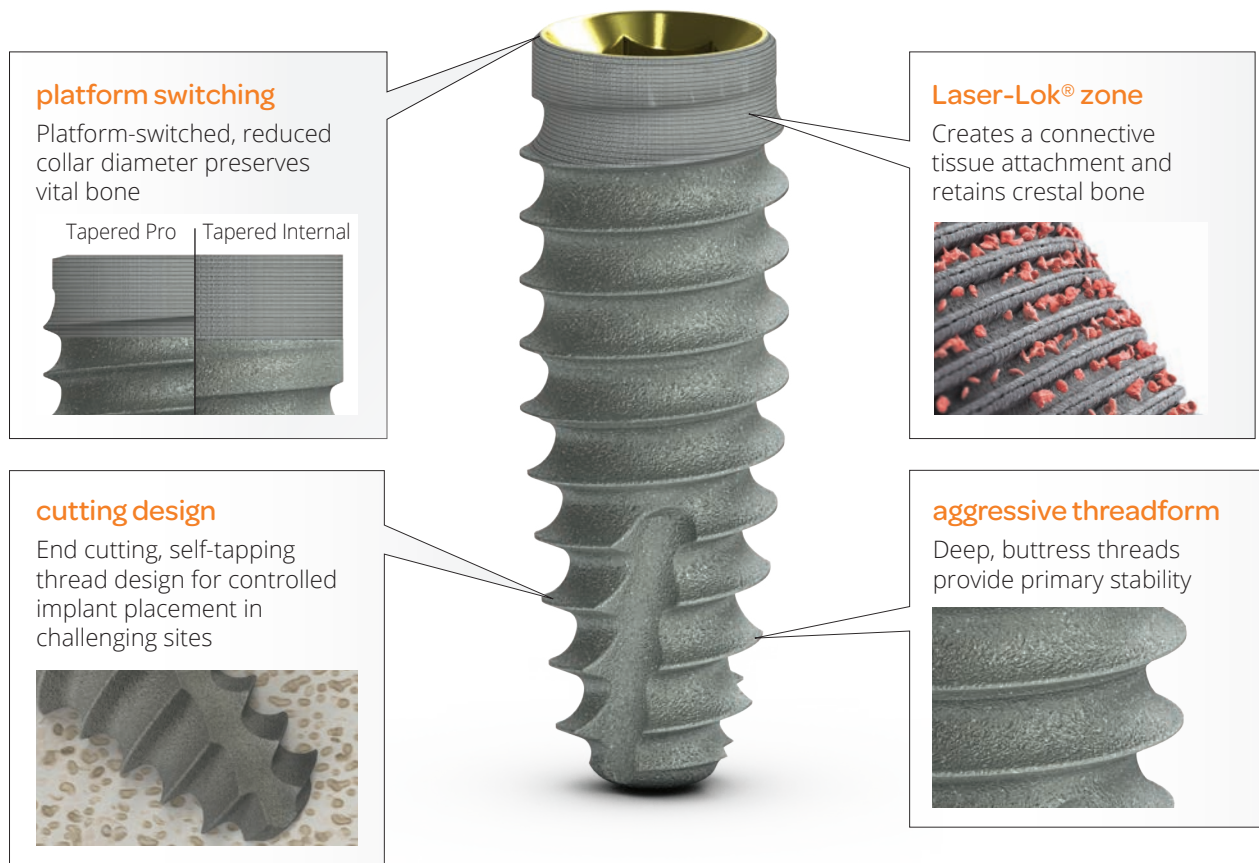
*Mount-free Tapered Pro, Tapered PTG, Tapered Internal, Tapered Plus, Tapered Short, Tapered 3.0 and Tapered Tissue Level implants

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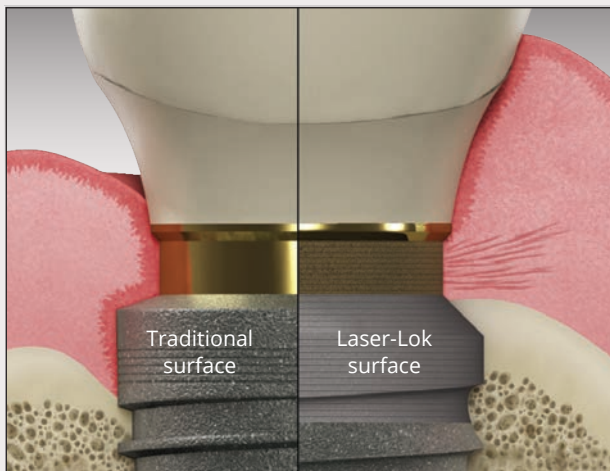
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Tapered Pro

Product Information



Laser-Lok® microchannels better science, better implants



- Over 25 years of in vitro, animal and human studies at leading universities¹
- Reduced incidence of peri-implantitis compared to traditional surfaces²
- Only surface shown to attract a physical, connective tissue attachment³⁻¹¹
- Overdenture study showing only 0.42mm of bone loss compared to 1.13mm for NobelReplace™ Select¹²

learn more at
www.laser-lok.com









Tapered Pro

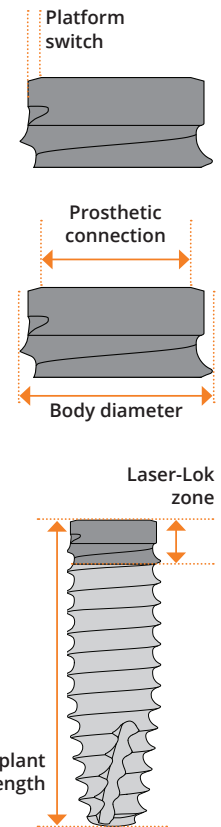
Ordering Information

BioHorizons Tapered Pro dental implants deliver predictable results for immediate treatment. The tapered body and aggressive, self-tapping buttress threads provide progressive insertion torque and compressive loading for primary stability while helical cutting flutes promote self-tapping and disperse bone chips. The Tapered Pro's reduced collar diameter minimizes stress on cortical bone and eliminates the need for crestal bone drills. The unique Laser-Lok microchannels create a connective tissue attachment and retain crestal bone, allowing better control of esthetic outcomes.

features:

- Dual affinity Laser-Lok surface creates a connective tissue attachment, retaining crestal bone
- Excellent primary stability from anatomically tapered body
- Compressive bone loading from proprietary buttress threads
- Conical internal hex connection provides a rigid connection and stable biological seal

				
Body diameter	3.8mm	4.2mm	4.6mm	5.2mm
Prosthetic connection	 3.0mm	 3.5mm	 3.5mm	 4.5mm
Laser-Lok zone	1.8mm	1.8mm	1.8mm	1.8mm
Apical diameter	2.8mm	3.0mm	3.2mm	3.3mm
9.0mm length	BTA3809	BTA4209	BTA4609	BTA5209
10.5mm length	BTA3810	BTA4210	BTA4610	BTA5210
12.0mm length	BTA3812	BTA4212	BTA4612	BTA5212
15.0mm length	BTA3815	BTA4215	BTA4615	BTA5215
18.0mm length	BTA3818	BTA4218	BTA4618	-



Laser-Lok collar with Resorbable Blast Texturing (RBT) on implant body. Mount-free for quick placement and maximum site visibility. Comes packaged with a Cover Cap. Titanium Alloy (Ti-6Al-4V ELI).

Individual Components

Surgical Kit & Drills

Tapered HD Surgical Kit

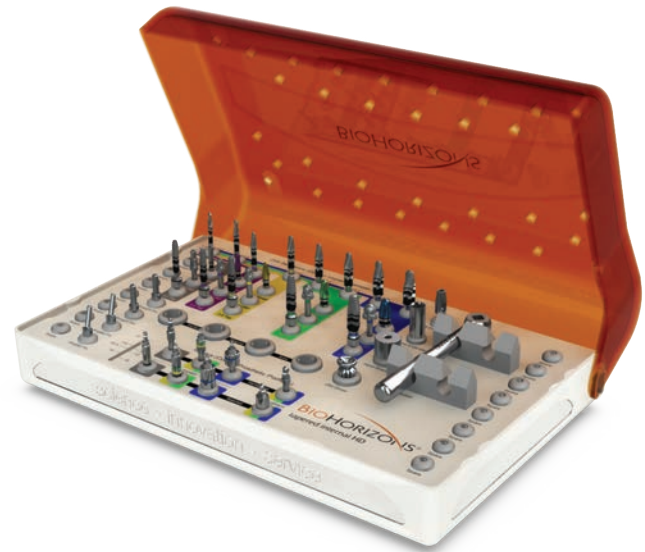
TSK4000

Tapered HD Surgical Kit

Includes the instrumentation required to place: Tapered Pro, Tapered PTG, Tapered Plus, Tapered 3.0, Tapered Tissue Level and Tapered Internal implants.

TSK3500

**Tapered HD Surgical Kit
(without instruments)**



HD Drills

TSD2020HD	2.0mm HD Drill
TSD2025HD	2.5mm HD Drill
TSD2028HD	2.8mm HD Drill
TSD2032HD	3.2mm HD Drill
TSD2037HD	3.7mm HD Drill
TSD2041HD	4.1mm HD Drill
TSD2047HD	4.7mm HD Drill

The Tapered HD drills feature highly efficient cutting flutes for crisp osteotomies in even the densest bone. Simplified drill markings correspond to the five Tapered Pro implant lengths. Drills should be replaced every 12-20 osteotomies for maximum cutting efficiency.



features:

- Cutting flutes designed for maximum efficiency
- Non-reflective surface for high visibility
- Simplified drill markings match each implant length
- Compatible with Tapered Pro, Tapered PTG, Tapered Internal, Plus, 3.0 and Tissue Level
- Creates 12-20 osteotomies depending on bone density
- Recommended drill speed 1,500-2,000 rpm (2.0 & 2.5mm), 1,000 rpm (all others)

Supplemental Implants

Narrow Diameter, Short & IM

BioHorizons full range of implants offers a variety of solutions with specialized designs that complement the Tapered Pro system. Whether working in narrow ridges, vertically resorbed bone, or posterior extraction sites, these implants, together with Tapered Pro, provide a complete solution for any treatment type.

Tapered 3.0 Implants with Laser-Lok



Body diameter	Prosthetic connection	Laser-Lok zone	9.0mm length	10.5mm length	12.0mm length	15.0mm length	18.0mm length
3.0mm	3.0mm	2.1mm	—	TLX3010	TLX3012	TLX3015	—
3.4mm	3.0mm	1.8mm	TLX3409	TLX3410	TLX3412	TLX3415	TLX3418

BioHorizons Tapered 3.0 Line offers the stability and reliability of BioHorizons Tapered Internal implants in narrower diameters. Designed for placement in challenging anterior regions, the 3.0 diameter implant uses a tapered body with buttress threads for stability during placement and Laser-Lok surface treatment for long term healing. The 3.4 diameter implants provide the same features but are indicated for all placement options. Reference L02024 for more information.

Tapered Short Implants with Laser-Lok



Body diameter	Prosthetic connection	Laser-Lok zone	Platform switch	6.0mm length	7.5mm length
4.6mm implant	3.5mm	1.8mm	0.5mm	TSL4606	TSL4607
5.8mm implant	4.5mm	1.8mm	0.6mm	TSL5806	TSL5807

BioHorizons Tapered Short implants provide a solution for cases with limited vertical bone height, potentially expediting treatment by eliminating the need for bone grafting, and can now be placed using a fully guided workflow with the Tapered Short Guided kit. The Tapered Short implant design features an aggressive thread profile and tapered body for primary stability, even in compromised situations. A platform-switched, dual-affinity, Laser-Lok surface offers crestal bone retention and connective tissue attachment for flexible placement. Reference L02027 for more information.

Tapered IM Implants with Laser-Lok



Body diameter	Prosthetic connection	Laser-Lok zone	7.5mm length	9.0mm length	10.5mm length
7.0mm implant	5.7mm	1.8mm	TIM7007	TIM7009	TIM7010
8.0mm implant	5.7mm	1.8mm	TIM8007	TIM8009	TIM8010

BioHorizons Tapered Immediate Molar family includes large diameter implants 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 its 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. Reference L01060 for more information.

Individual Components

Surgical Instruments



3.0mm Implant-level Drivers

TP3IDRL	3.0mm Implant-level Driver, Handpiece, Long <i>(sold separately)</i>
TP3IDHR	3.0mm Implant-level Driver, Handpiece, Regular
TP3IDRR	3.0mm Implant-level Driver, Ratchet, Regular

Drivers are color-coded by prosthetic connection:

- 3.0mm platform - no color indicator



3.5/4.5mm Implant-level Drivers

TYGIDH	3.5/4.5mm HD Implant-level Driver, Handpiece
TYGIDR	3.5/4.5mm HD Implant-level Driver, Ratchet

Drivers are color-coded by prosthetic connection:

- 3.5mm platform - yellow
- 4.5mm platform - green



130-000
Ratchet



300-205
4mm Square
Drive Extender



300-400
Hand
Wrench



135-351
050" (1.25mm)
Hex Driver



122-100
Drill
Extender



144-100
Straight
Parallel Pins
(2 per kit)



144-200
20° Angled
Parallel Pins
(2 per kit)



144-230
30° Angled
Parallel Pins
(sold separately)

Ancillary Instruments

Surgical Instruments



2.5mm Tapered Depth Drills with Stops

TSD202507HD	2.5mm Tapered Depth Drill, 7.5mm Stop
TSD202509HD	2.5mm Tapered Depth Drill, 9mm Stop
TSD202510HD	2.5mm Tapered Depth Drill, 10.5mm Stop
TSD202512HD	2.5mm Tapered Depth Drill, 12mm Stop
TSD202515HD	2.5mm Tapered Depth Drill, 15mm Stop

Stops are set to same length as each implant for crestal placement.

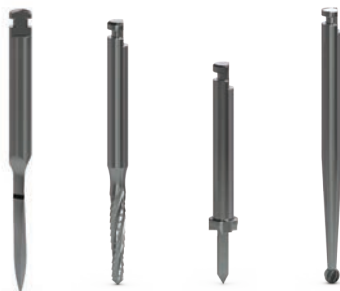


Extended Shank HD Drills

TSD4020HD	2.0mm Extended Shank HD Drill
TSD4025HD	2.5mm Extended Shank HD Drill
TSD4028HD	2.8mm Extended Shank HD Drill
TSD4032HD	3.2mm Extended Shank HD Drill
TSD4037HD	3.7mm Extended Shank HD Drill
TSD4041HD	4.1mm Extended Shank HD Drill
TSD4047HD	4.7mm Extended Shank HD Drill

Extended Shank Drills are 8mm longer than standard drills.

Burs



122-015	1.5mm starter drill
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The 1.5mm starter drill facilitates precise initiation of osteotomies and features a 10.5mm depth marking.

122-110	2.0mm Lindemann Bone Cutter
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Side-cutting drill used to correct eccentric osteotomy preparations.

122-104	Alignment Drill
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The alignment drill can be used to initiate the osteotomy to a depth of 5mm. The cutting surface of the drill hub prepares the crestal bone for the depth drill.

122-106	#6 Round Bur
---------	--------------

Ancillary Instruments

Miscellaneous Instruments



Tissue Punches

122-200	3.0mm Tissue Punch (for a 3.3mm incision)
PYTP	3.5mm Tissue Punch (for a 3.9mm incision)
PGTP	4.5mm Tissue Punch (for a 4.7mm incision)

Use in flapless surgical procedures to remove a minimal amount of the soft tissue from the crest of the ridge prior to osteotomy preparation or during implant uncover.



Elos Adjustable Torque Wrench

C12374	Elos Adjustable Torque Wrench
C8521	Elos Replacement Bit, 4mm Square
C8381	Elos Replacement Bit, Handpiece

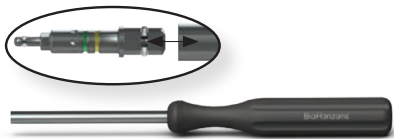
Lightweight titanium design is easy to use as a ratchet or adjustable torque wrench with visual indicators for 15, 30, 40, 50, 60, 70, 80 and 90 Ncm. Comes packaged with a 4mm square adaptor. Quickly disassembles for cleaning. No calibration required.



ITL Adjustable Torque Wrench

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. Fits any 4mm square component.



Surgical Driver

150-000	Surgical Driver
---------	-----------------

Use to drive implants into the osteotomy, particularly in the anterior region. Holds the 4mm Square implant-level drivers and the bone taps.



Implant Spacer / Depth Probe

144-300	Implant Spacer / Depth Probe
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Use to provide intraoral measurements. Multi-functional tool for marking implant spacing on the ridge and probing osteotomy depth.

Ancillary Instruments

Miscellaneous Instruments



Guided Surgery Kit

CGS4000

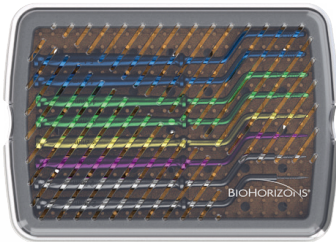
Guided Surgery Kit (with instruments)

Includes the instrumentation required to place BioHorizons Tapered implants*

Important Note about Guided Surgery Kit:

Surgical protocol & guide partners for the CGS4000 can be found at biohorizons.com

* Mount-free Tapered Pro, Tapered PTG, Tapered Internal, Tapered Plus, Tapered 3.0, Tapered Tissue Level implants. 5.2mm and 5.8mm instruments sold separately.



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.

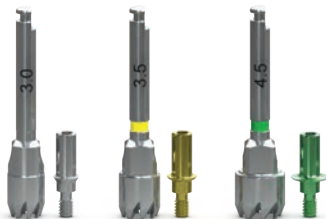


Tapered Ridge Expanders

TRE30	3.0mm Tapered Ridge Expander
TRE34	3.4mm Tapered Ridge Expander
TRE38	3.8mm Tapered Ridge Expander
TRE42	4.2mm Tapered Ridge Expander
TRE46	4.6mm Tapered Ridge Expander

3.0mm Tapered Ridge Expander
3.4mm Tapered Ridge Expander
3.8mm Tapered Ridge Expander
4.2mm Tapered Ridge Expander
4.6mm Tapered Ridge Expander

Refer to L02038 for the surgical protocol.



Bone Profiling Burs

TP3DBP	3.0mm Bone Profiling Bur & Guide
PYDBP	3.5mm Bone Profiling Bur & Guide
PGDBP	4.5mm Bone Profiling Bur & Guide

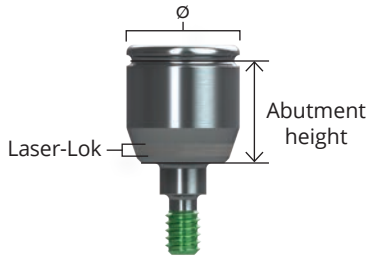
3.0mm Bone Profiling Bur & Guide
3.5mm Bone Profiling Bur & Guide
4.5mm Bone Profiling Bur & Guide

Use at implant uncoverly to remove excess crestal bone for proper abutment seating. Screw the guide into the implant and align the profiling bur for precise bone removal. Match profiler & guide color to prosthetic connection.

Healing Abutments

Standard & Laser-Lok Abutments

Laser-Lok Healing Abutments



Narrow emergence	∅	3mm height	5mm height
3.5mm platform, Laser-Lok	4.0mm	PYNHA3L	PYNHA5L
4.5mm platform, Laser-Lok	5.0mm	PGNHA3L	PGNHA5L

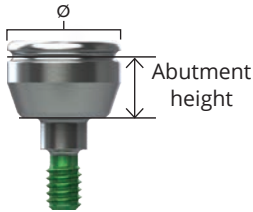
Regular emergence	∅	3mm height	5mm height
3.0mm platform, Laser-Lok	3.5mm	TP3HA3L	TP3HA5L
3.5mm platform, Laser-Lok	4.5mm	PYRHA3L	PYRHA5L
4.5mm platform, Laser-Lok	5.5mm	PGRHA3L	PGRHA5L

Wide emergence	∅	3mm height	5mm height
3.0mm platform, Laser-Lok	4.0mm	TP3WHA3L	TP3WHA5L
3.5mm platform, Laser-Lok	6.0mm	PYWHA3L	PYWHA5L
4.5mm platform, Laser-Lok	7.0mm	PGWHA3L	PGWHA5L

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.

Standard Healing Abutments

Narrow emergence	∅	1mm height	2mm height	3mm height	5mm height
3.0mm platform	3.0mm	-	TP3NHA2	TP3NHA3	TP3NHA5
3.5mm platform	4.0mm	PYNHA1	PYNHA2	PYNHA3	PYNHA5
4.5mm platform	5.0mm	PGNHA1	PGNHA2	PGNHA3	PGNHA5



Regular emergence	∅	1mm height	2mm height	3mm height	5mm height
3.0mm platform	3.5mm	-	TP3HA2	TP3HA3	TP3HA5
3.5mm platform	4.5mm	-	PYRHA2	PYRHA3	PYRHA5
4.5mm platform	5.5mm	-	PGRHA2	PGRHA3	PGRHA5

Wide emergence	∅	1mm height	2mm height	3mm height	5mm height
3.0mm platform	4.0mm	-	-	TP3WHA3	TP3WHA5
3.0mm platform (extra wide)	5.0mm	-	-	TP3EWA3	TP3EWA5
3.5mm platform	6.0mm	-	-	PYWHA3	PYWHA5
4.5mm platform	7.0mm	-	-	PGWHA3	PGWHA5

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

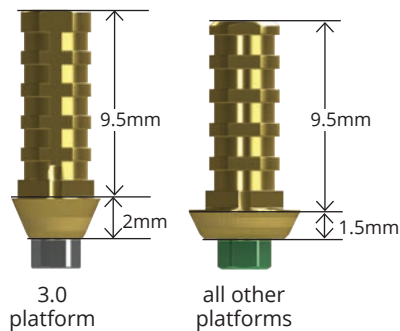
The 3.5mm and 4.5mm healing abutments are laser marked for easy intraoral identification of the prosthetic platform, emergence and height. 3.0 healing abutments are not laser marked due to their small size.

- Y** = Yellow (3.5mm) platform
- G** = Green (4.5mm) platform
- N, R or W** = Narrow, Regular or Wide emergence
- 1, 2, 3 or 5** = 1mm, 2mm, 3mm or 5mm abutment height
- L** = Laser-Lok



Temporary Abutments & Cover Caps

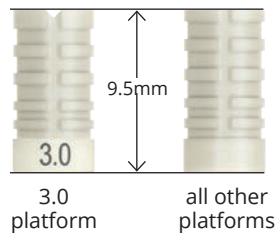
Laser-Lok Easy Ti Abutments



Laser-Lok Easy Ti Abutments

hexed	non-hexed	
TP3ETHL	TP3ETNL	3.0mm platform
PYETHL	PYETNL	3.5mm platform
PGETHL	PGETNL	4.5mm platform

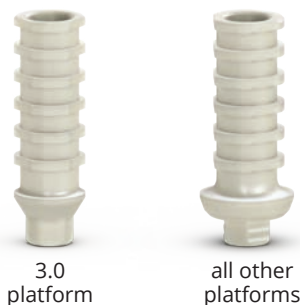
Use hexed for single-unit screw retained, long term temporary restorations that require superior esthetics (>30 days). Use non-hexed for multiple-unit, screw retained, long term temporary restorations (>30 days). Packaged with an abutment screw (PXAS). Titanium Alloy for strength. TiN coated for esthetics.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



Easy Ti Temp Sleeves

TP3ETPS	3.0mm platform, PEEK (pack of 3)
PXETPS	3.5mm, 4.5mm & 5.7mm platform, PEEK (pack of 3)

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



PEEK Temporary Cylinder Abutments

hexed	non-hexed	
TP3PTC	TP3PTCN	3.0mm platform
PYPTC	PYPTCN	3.5mm platform
PGPTC	PGPTCN	4.5mm platform

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.



Cover Caps

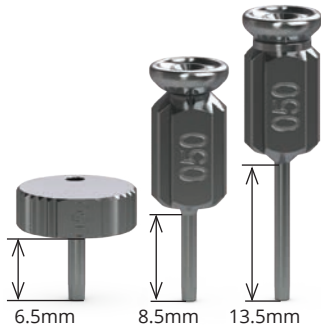
TP3CC	3.0mm Cover Cap
PYCC	3.5mm Cover Cap
PGCC	4.5mm Cover Cap

Use during submerged surgical healing. Hand-tighten with the .050" (1.25mm) Hex Driver. Titanium Alloy.

A Cover Cap is included with each implant, but can also be ordered separately.

Restorative Instruments

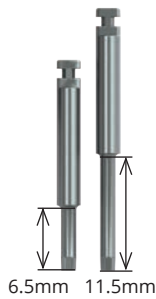
Hex Drivers & Osstell



.050 (1.25mm) Manual Hex Drivers

135-251	Manual Hex Driver, Short
135-351	Manual Hex Driver
135-451	Manual Hex Driver, Long

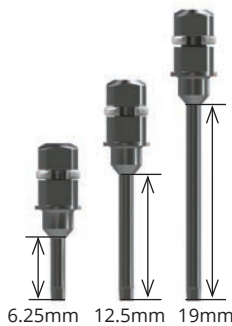
For installation and removal of cover screws, healing abutments and abutment screws.



.050 (1.25mm) Handpiece Hex Drivers

134-350	Handpiece Hex Driver
134-450	Handpiece Hex Driver, Long

For installation and removal of cover screws, healing abutments and abutment screws. The handpiece hex drivers are used with latch-type contra-angle handpieces. The Handpiece Hex Driver, Long (134-450) is 5mm longer than the standard version (134-350).



.050 (1.25mm) Square Hex Drivers

300-350	4mm Square Hex Driver
300-351	4mm Square Hex Driver, Long
300-354	4mm Square Hex Driver, Extra Long

For installation and removal of cover screws, healing abutments and abutment screws.

Osstell ISQ

OSS-103000	Osstell Beacon
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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.

SmartPegs (packs of 5)

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



Surgical Manual

Instructions for Use

Tapered Pro Surgical Manual

This surgical manual serves as a reference for using the Tapered Pro 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. 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.



Small diameter implants are intended for the anterior region of the mouth and are not intended for the posterior region of the mouth due to possible failure of the implant.

Indications

Tapered Pro, Tapered Internal, Tapered Plus and Tapered Tissue Level 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.

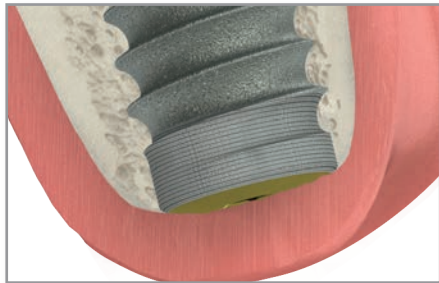
Tapered Internal 3.0 and Tapered Tissue Level 3.0 Implants may be used as an artificial root structure for single tooth replacement of mandibular central and lateral incisors and maxillary lateral incisors. The implants may be restored immediately:

- (1) with a temporary prosthesis that is not in functional occlusion,
- (2) when splinted together as an artificial root structure for multiple tooth replacement of mandibular incisors,
- (3) for denture stabilization using multiple implants in the anterior mandible and maxilla.

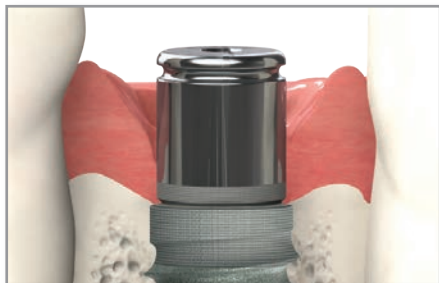
The implants may be placed in immediate function when good primary stability has been achieved and with appropriate occlusal loading.

Surgical Manual

Surgical Protocols



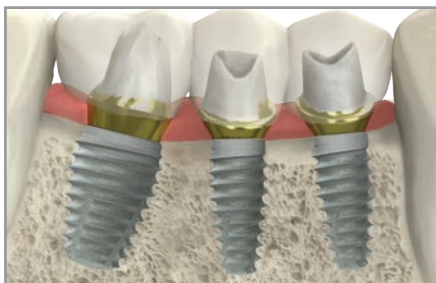
Implant with cover cap in a two-stage protocol.



Implant with healing abutment in a single-stage protocol.



Implant restored with a non-functional provisional prosthesis.



Implants with a splinted prosthesis in immediate function.

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

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

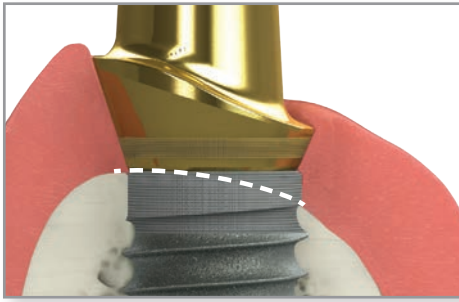
Single-stage surgery with non-functional immediate provisionalization provides the patient a non-functioning provisional prosthesis early in the treatment plan. An abutment is placed on the implant at or shortly after surgery, and a provisional restoration is secured using temporary cement. The provisional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

Immediate Function Restoration

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.

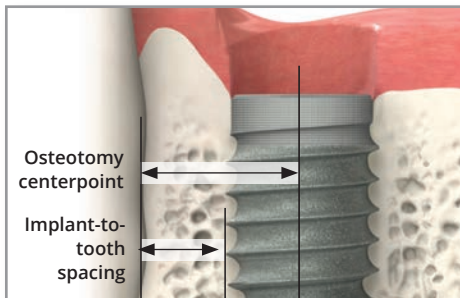
Surgical Manual

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.



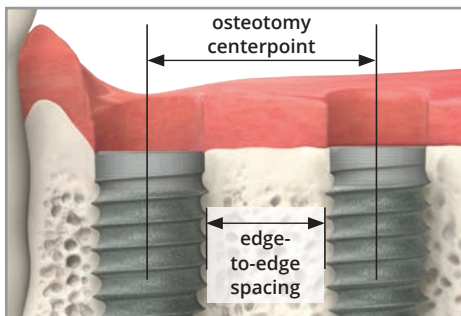
Implant-to-Tooth Spacing

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:

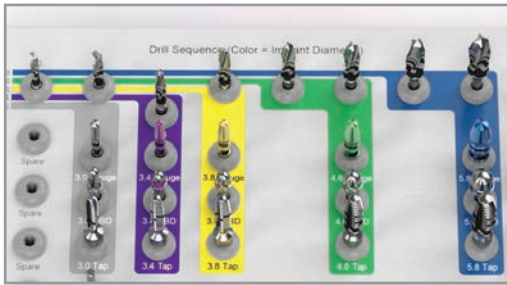
$1/2$ (sum of 2 implant body diameters) + the desired spacing.



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

Surgical Manual

Surgical Kit & Drill Sequence



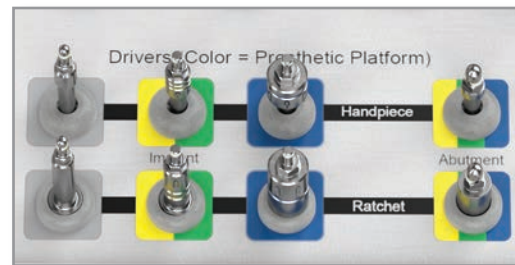
Tapered HD drills increase in diameter as you work through the sequence from left-to-right.



Surgical Kit Instructions


Prior to use, clean and sterilize the surgical tray and instruments according to the Instructions for Use included with the kit. Study the surgical kit layout, color coding and iconography. Surgical assistants should be thoroughly familiar with all instruments and their uses prior to initiating the surgical procedure.

The surgical kit uses an intuitive layout to guide the surgeon through the instrument sequence. The sequence begins in the upper left hand corner and works left-to-right.



The implant driver section is color-coded by prosthetic platform (gray=3.0mm, yellow=3.5mm, green=4.5mm and blue=5.7mm).

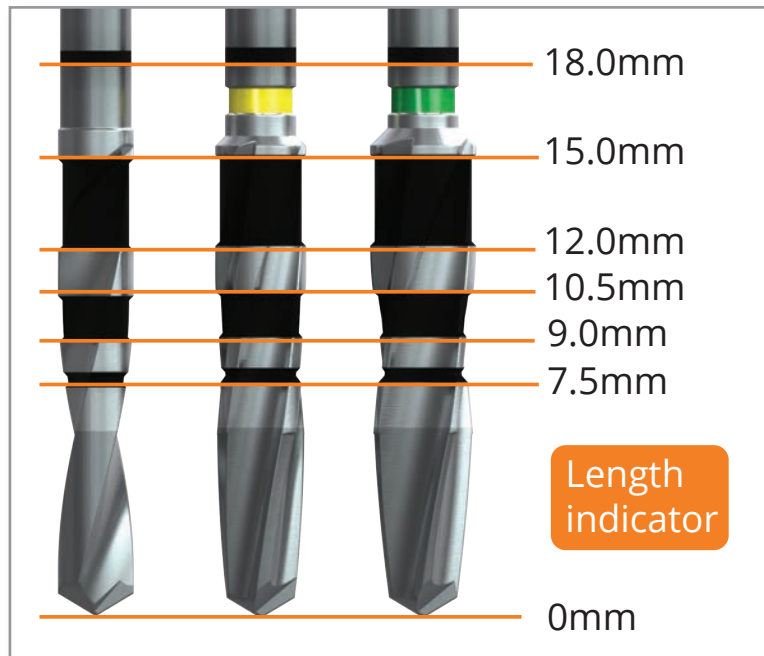
Drill Sequence

<p>3.8mm body diameter</p> <p>soft bone dense bone</p>	<p>4.2mm body diameter</p> <p>soft bone dense bone</p>	<p>4.6mm body diameter</p> <p>soft bone dense bone</p>	<p>5.2mm body diameter</p> <p>soft bone dense bone</p>	<p>2.0</p> <p>2.5</p> <p>2.8</p> <p>3.2</p> <p>3.7</p> <p>4.1</p> <p>4.7</p>	
HD Drill Sequence					Implant Driver
<i>Recommended speed 1,500 - 2,000 RPM</i>			<i>Recommended speed 1,000 RPM</i>		<i>Maximum 30 RPM or use manually</i>
Initiate osteotomy			Develop osteotomy		Place implant matching the length of the prepared osteotomy

Note: The 2.8mm drill is used for the 3.8mm diameter implant in soft bone, it is not needed for other sizes.

Surgical Manual

Drill Overview



Drill Markings

All surgical drills included with this system are externally irrigated and designed to be used with steady sterile irrigation. Reduced drill speed may be indicated in softer bone or as drill diameter increases.

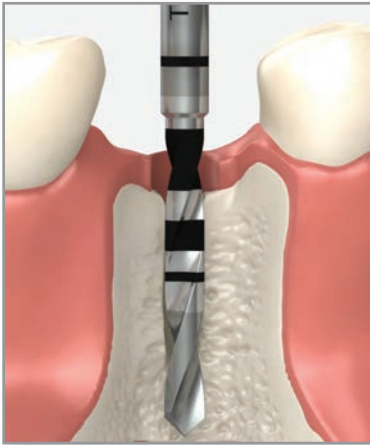
Note: The depth marks are consistent throughout the starter drills, depth drills and width increasing drills.

Important Considerations

- Peri-operative oral rinses with a 0.12% Chlorhexidine Digluconate solution have been shown to significantly lower the incidence of post-implantation infectious complications.¹³ A pre-operative 30-second rinse is recommended, followed by twice daily rinses for two weeks following surgery.
- Drilling must be done under a constant stream of sterile irrigation. A pumping motion should be employed to prevent over-heating the bone. Surgical drills and taps should be replaced when they are worn, dull, corroded or in any way compromised. BioHorizons recommends replacing drills after 12 to 20 osteotomies.¹⁴ A Drill-usage Tracking Chart is available at biohorizons.com to record this important information.
- There is a risk of injury to the mandibular nerve associated with surgical drilling in posterior mandibular regions. To minimize the risk of nerve injury, it is imperative that the clinician understands the drill depth markings as they relate to the implant length to produce the desired vertical placement of the implant.

Surgical Manual

Osteotomy Initialization



The 2.0mm and 2.5mm depth drills are designed to increase and/or set the depth of the osteotomy.

2.0mm HD Drill

Purpose: Initiate osteotomy.

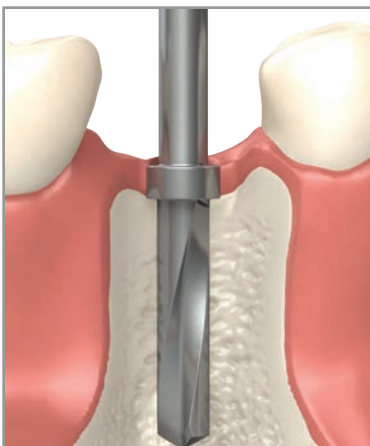
- Chisel-tip design eliminates “skating” on osseous crest
- Prepares site for paralleling pins
- Matte finish for increased visibility under operator lights
- 1,500 - 2,000 RPM



2.5mm HD Drill

Purpose: Set osteotomy depth.

- Efficient cutting drill design collects bone for autografting
- Matte finish for increased visibility under operator lights
- 1,500 - 2,000 RPM



2.5mm Depth Drills with Stops

Purpose: Set osteotomy depth when access or visibility is poor.

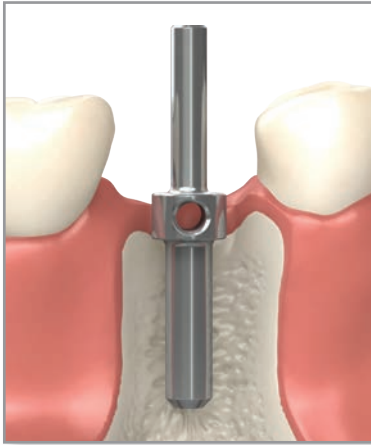
- Fixed circular ring acts as a definitive drill stop
- One drill length for each implant length*
- Surgical Kit includes spare slots for depth drills with stops or extended shank drills
- 1,500 - 2,000 RPM

* Except 18mm length



Surgical Manual

Osteotomy Modification



Paralleling Pins

Purpose: Evaluate osteotomy position and angle.

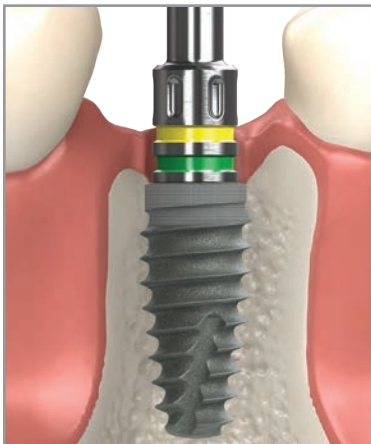
- Provided straight or with a 20° angle
- Use after 2.0mm Starter Drill and 2.5mm Depth Drill
- 9mm shank for radiographic evaluation of proximity to adjacent anatomy
- Hub diameter is 4.0mm



HD Drills

Purpose: Incrementally widen the osteotomy to reduce heat generation.

- 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
- 1,000 RPM



Implant & Abutment Drivers

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

- Implant level drivers are color-coded by prosthetic connection:
- Gray=3.0mm platform
- Yellow/green=3.5/4.5mm platform
- 30 rpm or less¹⁵



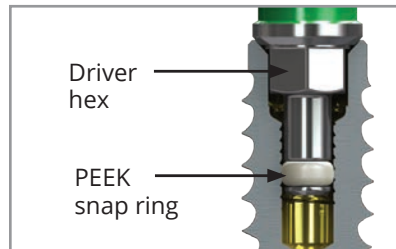
Surgical Manual

Implant Transfer



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.

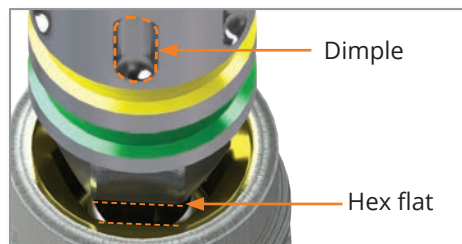


If too much resistance is felt during insertion, reverse the implant to relieve pressure and re-insert into the osteotomy. If the final drill was not used while preparing the osteotomy, remove the implant and revise the osteotomy with the final drill.



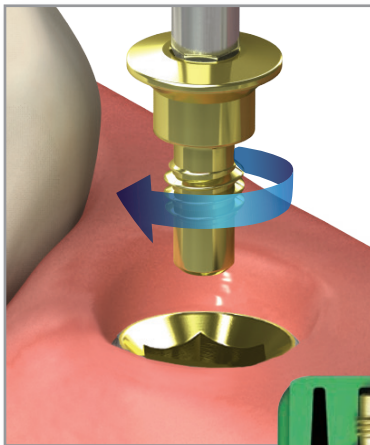
Internal Hex Orientation

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.



Surgical Manual

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



Cover cap

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

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.

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Appendix

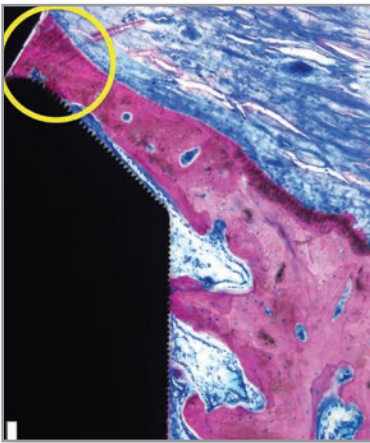
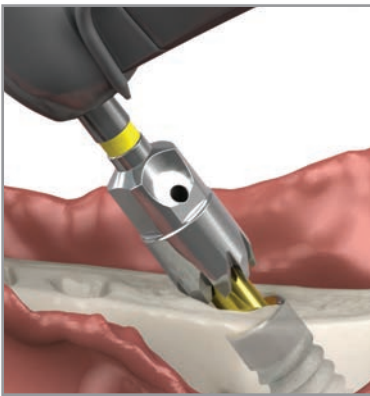


Image showing exceptional bone growth at 3 months. (Myron Nevins, DDS.)



Bone Profilers

Purpose: In cases where excess crestal bone has been created, use a bone profiler at implant uncover 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)
- 800 rpm drill speed with steady sterile irrigation



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.

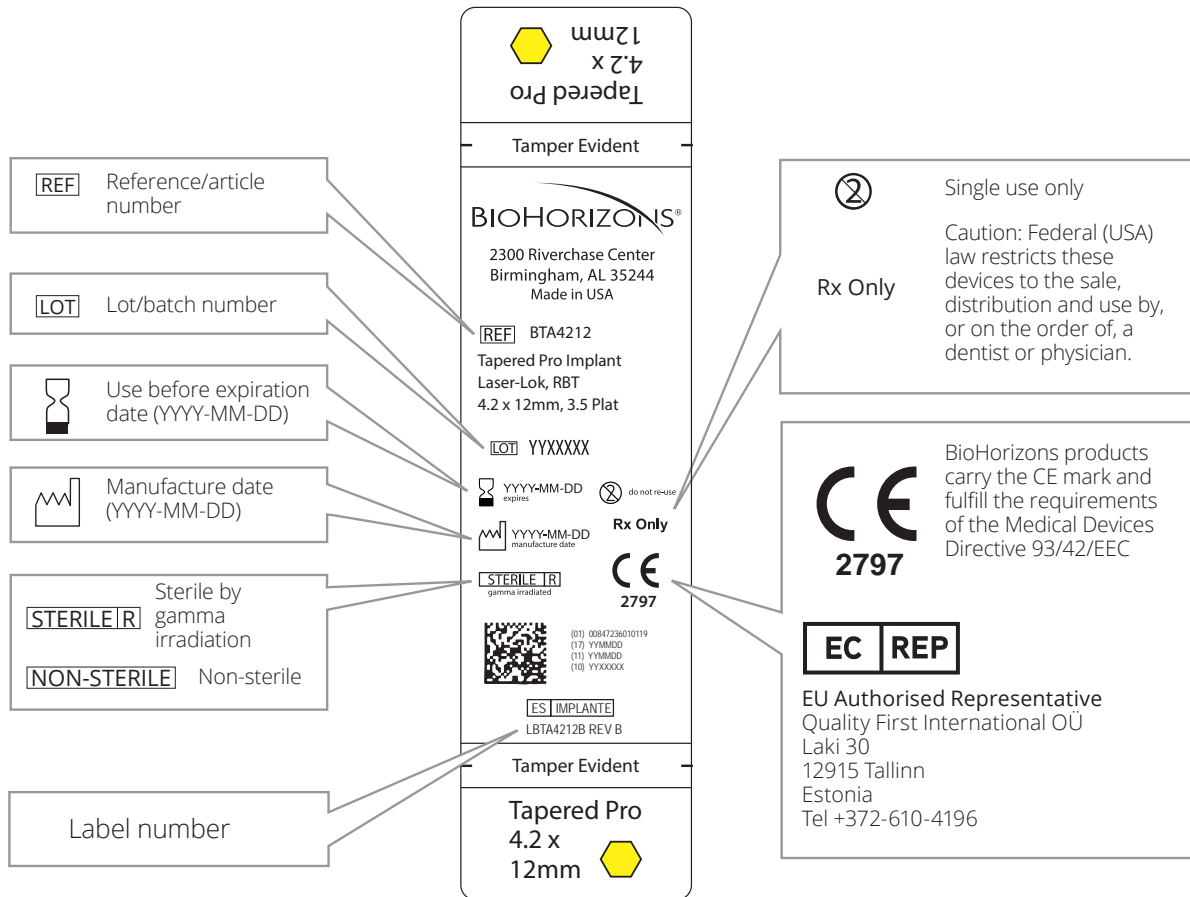
Ongoing hygiene for the implant patient is vital. Hygiene recall appointments at three month intervals are suggested. Instruments designed for implant abutment scaling, such as ImplanCare® instruments from Hu-Friedy® should be utilized. The stainless steel handles may be fitted with assorted tip designs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

Surgical Manual

Icon Legend

Symbol Descriptions for Product Labeling

The example labeling below is to demonstrate content and symbology, and may differ on individual product labeling.



Tapered Pro Product Labeling



body diameter	prosthetic platform
3.8mm	3.0mm (gray internal hex & cover cap)
4.2mm	3.5mm (yellow internal hex & cover cap)
4.6mm	3.5mm (yellow internal hex & cover cap)
5.2mm	4.5mm (green internal hex & cover cap)

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(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.¹⁴

(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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