

IMPLANT LINE
PTERIGO



GUIDELINES FOR USE OF
THE IMPLANT SYSTEM
PTERIGO

PTERIGO

The alternative to the sinus-lift in upper-posteriors atrophic maxillar saddles.

The alternative to the sinus-lift in upper-posteriors atrophic maxillar saddles.

PTERIGO is a system available in two lengths specially designed for the rehabilitation of the upper-posteriors atrophic maxillar saddles and represents a valid therapeutic alternative to the sinus-lift. PTERIGO implant was developed by BTK thanks to the tutoring of Dr. Mauro Cerea with a follow-up of over 22 years.

Since 1996, over 1500 Pterigo Implants have been positioned with the following results:

- **More than 97% successes in osseointegration**
- **More than 99% successes in osseointegration under prosthetic load**

SEE BIBLIOGRAPHY

SINUS-LIFT APPROACH	PTERIGO IMPLANT
Complicated surgical procedure with the possibility of failure	Reduced surgical times with high percentage of osteintegration
General anesthesia or Conscious sedation (in case of autologous sampling)	Local anesthesia
Possible sinus complications	Minor post-surgical complications
Long restoration times	Standard prosthetic times or immediate loading
Different surgical times (in case of deferred implants)	Only one surgical site



The implant is inserted from the maxillary tuber to intersect the laminae of the pterygoid fossa with an inclination of approximately:

45 ° on the sagittal plane

15 ° on the lateral-medial plane

ALTERNATIVE THERAPEUTIC OPTIONS

- **Regenerative techniques**
- **Distal extension**
- **Removable prosthesis**

The shown images are purely illustrative and the product could differ in colour and / or in some parts.

THE PTERIGOID SOLUTION

The posterior area of the maxillary tuberosity is closely connected at the bone level with the pterygoid process of the sphenoid and with the wall of pyramidal process of the palatine, thus representing an appropriate anatomical structure, characterized by dense bone, suitable to support dental implants.

The pterygoid implant is an endosseous fixture, of 15-18 mm in length, positioned in the region of the superior maxillary tuber; the greater length of the implant, if compared to a standard fixture, allows to reach the pterygoid fossa and therefore the homonymous sphenoid abutment on which the anchoring takes place of the apical part of the implant. The pterygoid implant generally comes used concurrently with the placement of other fixtures or teeth placed in the mesial area with respect to the maxillary sinus.

The positioning of a pterygoid implant **allows to overcome the limits** for example, **by the insertion of traditional implants in the higher molar regions**, characterized by limited residual bone volumes.

The pterygoid solution also **avoids surgical procedures in two phases**, that is the first phase of bone regeneration (maxillary sinus lift, bone grafts, split crest) followed, after 6-9 months, by the insertion of a traditional dental fixture; such procedures may not be accepted by the patient or not given the expected results in terms of pre-implant regeneration.

The use of a pterygoid implant requires a high knowledge of the anatomy of the medical district of surgical interest for the purpose of planning and execution of the surgical act. The use of PTERIGO implant is strongly recommended to already skilled specialists in implantology. **PTERIGO implant becomes an additional treatment solution that the practitioner can use.**

ADVANTAGES

REDUCED
SURGICAL TIMES

LOCAL
ANESTHESIA

SOLUTION FOR
CASES OF SERIUOS
MAXILLARY
ATROPHY

STANDARD
PROSTHETIC
TIME

ONLY ONE
SURGICAL
SITE

CONNECTION

EXTERNAL HEXAGON ER - DIAMETER 4,7
DIAMETER OF THE COLLAR DIMENSIONED
TO AVOID COLLECT FRACTURES

SMOOTH NECK
TISSUE LEVEL
H 4 mm

DAE TEXTURED
SURFACE

PROGRESSIVE CONICALITY
Easy insertion
Modular thread pitch
Greater stability

Variable thread pitch to match
the several bone densities

TOTAL LENGTH
15 mm
18 mm

SELF TAPPING

FLAT APEX

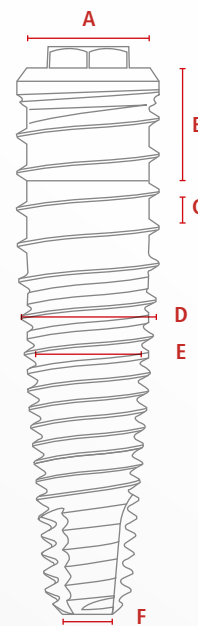


IMPLANT DESIGN

The implant design has been designed to facilitate the insertion procedures, optimize the primary stability and maximize the osseointegration.

The implant is proposed with a diversified surface treatment, a self-tapping modulated threads shape and a conical profile with a flat apex.

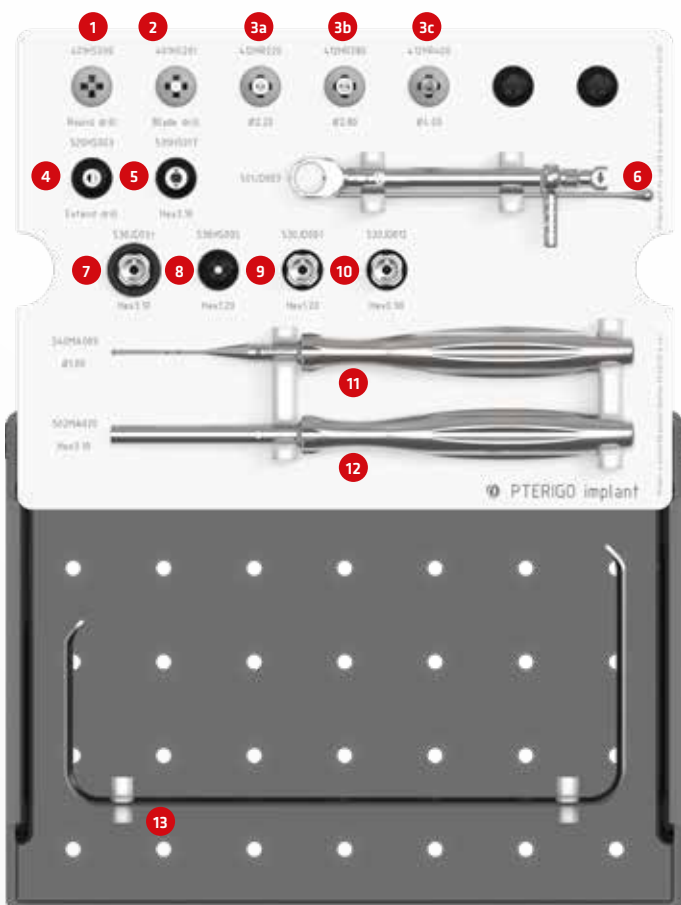
CONNECTION EXTERNAL HEXAGON ER	
4,7	ER (EXTERNAL REGULAR) Occlusal thread M2.0 Prosthetic Platform Ø 4.1 mm Smooth Neck Portion 4.0 mm
A PLATFORM Ø	
Ø 4.1 mm	
B SMOOTH NECK HEIGHT	
4.0 mm	
C THREAD PITCH	
1.2 mm	
D DIAMETER Ø	
Ø 4.7 mm	
E CORE DIAMETER	
Ø 4.0 mm	
F APEX DIAMETER	
Ø 2.0 mm	
TOTAL LENGTH	
15 mm	18 mm
150ER47R	150ER47T



The implants are supplied with a preinstalled mounting device and HEX 0.90 screw cap that can be screwed on with a HEX 0.90 driver.



DEDICATED SURGICAL KIT (Cod. 650NA001)



INSTRUMENTS

The surgical kit for PTERIGO (Cod.650NA001) contains all tools necessary for the implants insertion.

13 SURGICAL RETRACTOR

502MA008 | 70x16mm / 50x12mm



SURGICAL RETRACTOR
Notched to have greater grip on the mucosa

1 ROUND DRILL HS

401HS200 | Ø 2mm L30mm

2 LANCE DRILL HS

401HS201 | Ø 2mm L30mm

3 TWIST PRODRILL HR

412HR220 | Ø 2.2mm L37mm

412HR280 | Ø 2.8mm L37mm

412HR400 | Ø 4mm L37mm

4 DRILLS EXTENSION HS

520HS003 | L28mm

5 RETENTIVE WRENCH

530HS017 | HEX 3.10

6 TORQUE WRENCH JD REVERSIBLE



501JD003 | 90Ncm

7 ADAPTER CONNECTION



530JD031 | ISO/HEX 3.10 JD-L35mm

8 HANDPIECE DRIVER



530HS005 | HEX1.20 L30mm

9 SCREWDRIVER JD



530JD007 | HEX1.20 L30mm

10 SCREWDRIVER JD



530JD012 | HEX0.90 L15mm

11 DEPTH GAUGE



540MA009 | Ø1.8mm L140mm


















12 MANUAL WRENCH





502MA020 | HEX3.10 L140mm

PROTHESIS OPTIONS


EXTERNAL HEXAGON ER PROTHESIS

PICTURE	REF	PRODUCT NAME	SPECIFICATION	
SOFT TISSUE CONDITIONING				
	201ER6A3	Healing Abutment ER	H6mm Ø7mm	
PRESA D'IMPRONTA				
	325ER0F0	Impression Post Pro ER	25° Plastic Cap	
	301ER0A1	Implant Replica ER	—	
TEMPORARY ABUTMENTS				
	210ER2A0	Temporary Abutment ER		
	210ER2A1	Temporary Abutment ER	Rotating	
	215ER2A0	Temporary Abutment ER	Peek	
CEMENT-RETAINED PROSTHESIS				
	220ER2A1	Straight Abutment ER	H2mm Ø5mm	
	220ER2A3	Straight Abutment ER	H2mm Ø6mm	
	220ER2A2	Straight Abutment ER	H2mm Ø7.5mm	
	220ER4A0	Straight Abutment ER	H4mm Ø5mm	
	220ER4A1	Straight Abutment ER	H4mm Ø6mm	
	220ER4A2	Straight Abutment ER	H4mm Ø7.5mm	
	220ER2D0	Angled Abutment ER	15° H2mm	
	220ER4D0	Angled Abutment ER	15° H4mm	
	220ER2F0	Angled Abutment ER	25° H2mm	
	220ER4F0	Angled Abutment ER	25° H4mm	
	SCREW-RETAINED / CEMENT-RETAINED PROSTHESIS			
		246ER1A0	BT Link ER	H1mm Ø4.6mm
	247ER1A0	Base BT Link ER	H1mm Ø4.6mm no Cap.	
	205NA002.05	Castable Plastic Abut. BT Link	H1mm Ø5.2mm Kit 5pcs	
	240ER1A0	CoCr Abutment ER	H1.5mm	
	245ER1A0	Gold Abutment ER	H1mm	
	205ER2A0	Castable Plastic Abutment ER	—	
	205ER2A0.10		Kit 10pcs	
	246ER1A1	BT Link ER	H1mm Ø4.6mm Rotating	
	247ER1A1	Base BT Link ER	H1mm Ø4.6mm no Cap. Rot	
	240ER1R0	CoCr Abutment ER	H1.5mm Rotating	
	245ER1R0	Gold Abutment ER	H1mm Rotating	
	205ER2A1	Castable Plastic Abutment ER	Rotating	
	205ER2A1.10		Rotating Kit 10pcs	



ACCESSORIES

PICTURE	REF	PRODUCT NAME	SPECIFICATION
	690NA013	Retentive Screw	M2.0 HEX1.20
	690NA019	Retentive Screw Gold	M2.0 HEX1.20
	690NA067	Impression Post Screw	M2.0 HEX1.20 H8.1mm
	690NA091.10	Caps Kit Pro	Ø5.1mm Kit10 pcs

OPTIONAL INSTRUMENTS

PICTURE	REF	PRODUCT NAME	SPECIFICATION
	530JD011	Screwdriver JD	HEX0.90 L10mm
	530HS004	Handpiece Driver	HEX1.20 L25mm
	530HS002	Handpiece Driver	HEX0.90 L25mm
	530HS003		HEX0.90 L30mm
	530MA001		Manual Screwdriver

CAD-CAM

PICTURE	PRODUCT NAME	SPECIFICATION
	351ER1A0	Extra-oral Scan Abutment ER
	Prosthesis Options (Titanium)	<ul style="list-style-type: none"> • Custom Abutment • Screwed Crown • Screwed Bridge
	Prosthesis Options (Cobalt Chrome)	<ul style="list-style-type: none"> • Toronto teeth of commerce
	Prosthesis Options (Zirconia)	<ul style="list-style-type: none"> • Anatomically reduced Toronto

SURGICAL AND PROSTHETIC GUIDELINES



OPENING OF THE FLAP AND SITE PREPARATION

Make an incision of the maxilla tuber in the ridge at all thickness and subsequently vestibular release incisions and palatal. Proceed with the skeletonization of the maxilla superior posterity and the identification of anatomical landmarks clinical and radiological.



CREATING THE IMPLANT SITE

Use the **lance drill (401HS201) or ball drill (401HS200)** to create an invitation on the cortical bone useful for the placement of the depth drill.

- Recommended maximum speed: **700 RPM**.



Use the **Ø 2.20mm depth drill (412HR220)** to create the depth pilot hole, up to the pterygoid fossa.

- Recommended maximum speed: **300 RPM**.



Use the **depth gauge (540MA009)** to verify the clinical length of the pterygoid implant. Proceed to enlarge the hole with the **twist drill Ø 2.80mm (412HR280)** and subsequently with the **twist drill Ø 4mm (412HR400)**.

- Recommended maximum speed: **150 RPM**.



We recommend connecting all rotating instruments to the drill extension for easier access to the surgical area.

Abundant irrigation by means of physiological pre-cooled solution is recommended.



INSERTION OF THE IMPLANT

Insert the implant with the **retentive wrench and the drill extension tool (530HS017 + 520HS003)**.

Apply a maximum torque of 50 Ncm with a maximum speed of 25 RPM.



To complete the insertion it is possible to place the implant also with the manual moulder and the **reversible torque wrench (501JD003)**, in order to evaluate the final torque of insertion for the implant.

Insert the cap screw and tighten using the **HEX 0.90 mm screwdriver (530JD012)**.



In the case of immediate loading, once taken the impression, insert the healing screw.

Close the surgical area by suture.

In the case of insertion of a deferred load implant, it is necessary a surgical re-entry, to remove the cap screw and place the healing screw, finally proceed again with the suture.



INSTRUMENTS

The **drill extension (520HS003)** must be used for extend rotary tools, such as the **HEX 1.20 mm handpiece driver**.

The **HEX 1.20 mm handpiece driver (530HS005)**, must be used to INSERT AND REMOVE the healing screw.

The **HEX 0.90 mm (manual) screwdriver JD (530JD012)**, must be used to REMOVE THE SCREW CAP.

The **HEX 3.10 L140 mm manual wrench (502MA020)** must be used for manual insertion of the implant.

The **HEX 1.20 L30 mm (manual) screwdriver (530JD007)**, must be used connected to the **90Ncm reversible torque wrench**, included in the kit, for the final tightening of the abutment screws.

- We recommend using a torque of 30-35Ncm.

IMPRESSION TAKING

25° angled transfer with cap.

This transfer allows to correct the disparallelism of the implant compared to other implants or natural elements. The transfer is equipped with hexagonal base and guarantees to transfer the position of the hexagon in relation to the implant such as the three-dimensional position of the implant itself in comparison to the maxillary bone.

The plastic cap is a single-use device and is supplied NOT-STERILE. It is not auto-clavable. It must be disinfected before use with a common disinfectants for plastic products. The impression process use a closed tray and the repositioning of the system transfer + analogous with the cap, which remains in the impression, is done manually. The master model thus obtained, allows the design of both the temporary prosthesis and the definitive one done in collaboration with the dental laboratory technician.

Temporary prosthesis:

We recommend the execution of a temporary resin prosthesis, CEMENTED to the pterygoid implant by means of the temporary titanium abutments, or a SCREWED prosthesis to not-rotating peek abutment.

Definitive prosthesis:

In collaboration with the dental laboratory it is performed the design of the final restoration, choosing between a screwed or cemented approach; the final restoration can be realized also by means of CAD-CAM technology.

Anyway, the choice is subjective and it can condition the clinical case in question. The final tightening of the abutment screw must take place at 30-35 Ncm using the torque wrench.

BIBLIOGRAPHY

Tulasne JF: Implant treatment of missing posterior dentition. In Albrektsson T, Zarb GA (eds): The Branemark Osseointegrated Implant. Chicago, Quintessence, 1989, p. 103

Tulasne JF: Osseointegrated fixtures in the pterygoid region. In Worthington P, Branemark PI (eds): Advanced Osseointegration Surgery: Applications in the Maxillofacial Region. Chicago, Quintessence, 1992, p.182

Jensen OT, Shulman LB, Block MS, et al: Report of the Sinus Consensus Conference of 1996. Int J Oral Maxillofac Implants 1998;13 Suppl:11-45

Nedir R, Nurdin N, Vazquez L, et al: Osteotome sinus floor elevation without grafting: A 10-year prospective study. Clin Implant Dent Relat Res 2016;18:609-617

Reiser GM: Implant use in the tuberosity, pterygoid, and palatine region: Anatomic and surgical considerations. In Nevins M, Mellonig JT (eds): Implant Therapy: Clinical Approaches and Evidence of Success, Vol 2. Chicago, Quintessence, 1998, p. 197

Bidra AS, Huynh-Ba G: Implants in the pterygoid region: a systematic review of the literature. Int J Oral Maxillofac Surg 2011;40:773-781

Graves SL: The pterygoid plate implant: a solution for restoring the posterior maxilla. Int J Periodontics Restorative Dent 1994;14:512-523

Lee SP, Paik KS, Kim MK: Anatomical study of the pyramidal process of the palatine bone in relation to implant placement in the posterior maxilla. J Oral Rehabil 2001;28:125-132

Curi MM, Cardoso CL, Ribeiro Kde C: Retrospective study of pterygoid implants in the atrophic posterior maxilla: implant and prosthesis survival rates up to 3 years. Int J Oral Maxillofac Implants 2015;30:378-383

Balshi SF, Wolfinger GJ, Balshi TJ: A prospective study of immediate functional loading, following the Teeth in a Day protocol: a case series of 55 consecutive edentulous maxillas. Clin Implant Dent Relat Res 2005;7:24-31

Balshi TJ, Wolfinger GJ, Balshi SF: Analysis of 356 pterygomaxillary implants in edentulous arches for fixed prosthesis anchorage. Int J Oral Maxillofac Implants 1999;14:398-406

Bedrossian E, Rangert B, Stumpel L, et al: Immediate function with the zygomatic implant: a graftless solution for the patient with mild to advanced atrophy of the maxilla. Int J Oral Maxillofac Implants 2006;21:937-942

Balshi TJ, Lee HY, Hernandez RE: The use of pterygomaxillary implants in the partially edentulous patient: a preliminary report. Int J Oral Maxillofac Implants 1995;10:89-98

Bidra AS, May GW, Tharp GE, et al: Pterygoid implants for maxillofacial rehabilitation of a patient with a bilateral maxillectomy defect. J Oral Implantol 2013;39:91-97



BIOTEC S.R.L. VIA INDUSTRIA, 53
36031 POVOLARO DI DUEVILLE (VI) - ITALY
TEL: +39 0444 361251 - FAX: +39 0444 361249
mail: info@btk.dental

visit btk.dental

HEAD OF SCIENTIFIC COMMITTEE PTERIGO



Born in Bergamo, Italy in 1963. Graduated in Medicine and Surgery with honours in 1988. Principal Director in MaxilloFacial Surgery of the Joint hospitals of Bergamo. Winner of the university of Milan Prize in Maxillo Facial Surgery Speciality 1994. Director of Dentistry and Maxillo Facial surgery at the San Carlo di Paderno Dugnano Clinic in Milan from 1996 to 2006. Placing most popular implant brands since 1990. Opinion leader for same since 1999. Opinion leader for BTK implants since 2009.

BTK PERSONAL TUTOR

A program for individual case planning and execution supported by experienced professionals in order to leverage know-how and maximize clinical experience with the aim to achieve sustainable high patient satisfaction rates.

BTK is always at your disposal for any request for further follow-up or information, promoting periodic and ad-hoc training course.

CERTIFIED QUALITY SYSTEM

**BIOTEC is certified UNI EN ISO 9001
and UNI EN ISO 13485.**

Custom-made device, in accordance with Directive 93/42/EEC and subsequent modifications and additions.

The Company is registered at Italian Health Ministry Register of custom-made medical device manufacturers.

MADE IN ITALY USED GLOBALLY



We constantly ensure that the quality of our products and services meet the high expectations of our customers and their patients.

Specialized professionals are taking care to offer comprehensive solutions in applied research, engineering, education and related activities.

Cod. 06Z00030 Rev 5 - 11.02.2019
ALL IMAGES ARE FOR ILLUSTRATIVE PURPOSE. The informations may contain typographical imprecisions.
Biotec srl reserves the right to make changes, corrections and/ or improvements to the document without notice. The content is updated at the date of publication.
It is customer's responsibility to check the latest update available, by contacting Biotec or visiting the website www.btk.dental.

FOLLOW US ON

