DIGITAL DENTISTRY
CUSTOM-MADE MEDICAL DEVICES

btk Implanting Trust, Smile Again!

SUB-PERIOSTEAL IMPLANTS

IUXTA-3D

THE NEW DIGITAL PROTOCOL FOR JUXTA-OSSEOUS TREATMENT: CUSTOMIZED TITANIUM IMPLANTS, MADE TO MEASURE FOR PATIENTS.

visit **btk.dental**

FOLLOW US ON

DIGITAL DENTISTRY
CUSTOM-MADE MEDICAL DEVICES

SUB-PERIOSTEAL IMPLANTS

IUXTA-3D

The IUXTA-3D service finally permits to solve cases of extreme atrophy of the upper and lower jaw when the bone is not sufficient for conventional endosseous titanium implants.

IUXTA-3D implants are implantable medical devices made to measure for each individual patient, in compliance with the 93/42/EEC directive and its subsequent modifications and additions.

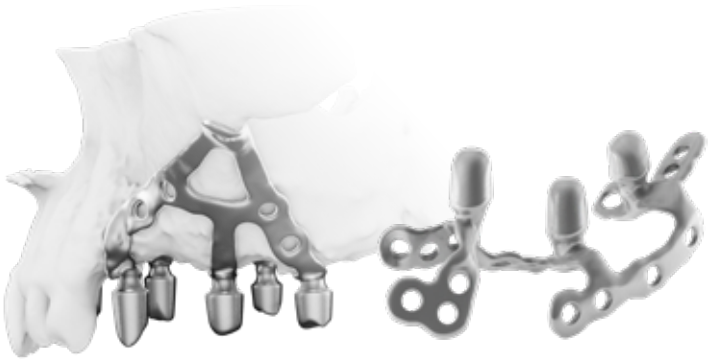
The structure of the juxta-osseous implant is designed based on the patient's examination and is customized following the patient's anatomical features and prosthetic needs. It is made of biocompatible, certified titanium.

It is placed during one single surgical session, reducing the waiting time and the patient discomfort, characteristic of conventional bone regeneration techniques.

IUXTA-3D probably represents the most mature and perfected evolution of this technique and makes it possible to obtain previously unthinkable outcomes and applications.

CHARACTERISTICS

- **100% DIGITAL WORK FLOW**
- **HIGH DIMENSIONAL ACCURACY**
- **EXCEPTIONAL STABILITY**
- **TITANIUM LASER MELTING**
- **DEDICATED OSTEOSYNTHESIS SCREWS**
- **VERIFIED MECHANICAL STRENGTH**



	TYPOLOGY	DESCRIPTION	CODE
	**MICRO**	**Rehabilitation of a single element** (1 abutment)	C34TL...
	**MINI**	**Rehabilitation of small edentulias** (2 abutments)	C33TL...
	**PARTIAL**	**Rehabilitation of hemiarches** (3 abutments)	C30TL...
	**TOTAL**	**Rehabilitation of full arches** (4 abutments)	C31TL...

The IUXTA-3D implant is delivered with a RESIN REPLICA of the implant. In addition, the patient's BONE MODEL is always produced, by means of 3D resin printing. On request, the BTK Milling Centre can also produce the structure for the provisional.

WHY CHOOSE IUXTA-3D

IT MEETS THE EXPECTATIONS OF CLINICIANS AND PATIENTS.

Innovative design and production technologies make this techniques truly effective, allowing time saving and patient's discomfort reduction.

IUXTA-3D TEAM, EXCLUSIVE KNOW-HOW.

Not only a product but also a CLINICAL and TECHNICAL support TEAM that can cooperate in real time with utmost efficiency, on a case by case basis.

SAFE AND DECISIVE PROCESS.

Control of all aspects of the process, from CT to the provisional restoration. The surgical procedure needed to place the implant is performed in one single session.

TRAINING AND TUTORING.

BTK offers a full calendar of advanced, specific training courses on the IUXTA-3D concept, to get to know the technique and its potentials and to acquire skills and experience with the surgical protocol.

STATE OF THE ART PRECISION AND CUSTOMIZATION.

Highly precise digital work flow, from the desig to the production of the implant by means of LASER MELTING TITANIUM technology.

UNCOMPROMISING QUALITY.

BTK is a certified member of the Italian Health Ministry's registry of manufacturers of custom-made medical devices legitimately operating in Italy.

SURGICAL PROCEDURE

1. Insertion of the IUXTA-3D implant.

2. Closure of the surgical flaps.

3. Control of the healing process (lateral view).

4. Control of the healing process (occlusal view).

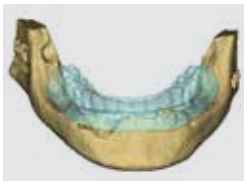
Photo: Courtesy by dr. Mauro Cerea

BT SCREW SURGICAL KIT

Fixation screw kit for advanced surgery.

Implanting Trust,
Smile Again!

DIGITAL WORKFLOW
IUXTA-3D

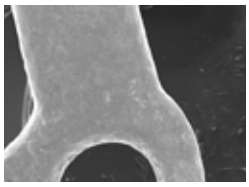



CONE BEAM CT AND PRODUCTION OF A 3D VIRTUAL BONE MODEL

The process starts with the acquisition of the patient's tomographic imaging and of a DICOM file. During the examination, the patient must wear a **dedicated radiological guide**. **The DICOM file is sent by the clinician to the BTK TEAM using the Web (http://upload.btk.dental/btk3d)**. The BTK TEAM checks the feasibility of the case and starts the design phase.


DIGITAL PROCESSING OF THE IUXTA-3D STRUCTURE

IUXTA-3D is virtually modelled on the anatomy of the patient by the BTK specialists, using a dedicated CAD software. **The layout of the device is designed to bear the prosthetic load while guaranteeing the best possible follow-up.** The final project is shared with the prescribing, who can make changes and who confirms it before production takes place.




TITANIUM LASER MELTING - 3D PRINTING

After receiving the doctor's prescription, BTK produces the device by means of "Selective Laser Melting" technique. Homogeneous layers of highly pure titanium powder are molten using a laser in a selective way, based on the 3D virtual model. The final object meets **high purity and microstructural homogeneity standards** that guarantee high mechanical performance, in response both to static and cyclic loading.


CLEANING, DECONTAMINATION, PACKAGING AND SHIPPING

The IUXTA-3D implant is decontaminated in an automatic ultrasonic machine, it is packaged in a cleanroom under controlled atmosphere and delivered ready for sterilization in the clinician's office. All BTK production cycles are controlled and registered so as to **guarantee the traceability of the product, in compliance with the most restrictive standards of reference.**


SURGERY AND SURGICAL APPLICATION

The surgery is performed under local anaesthesia or conscious sedation. At the end of surgery, the patient can receive a first provisional that will allow the perfect healing of soft tissues. You can ask BTK to make the provisional at the beginning of the production process.

http://upload.btk.dental/btk3d

Immediate uploading of the DICOM file of the patient's tomography.

For more INFO write to: btk3d@btk.dental

FOLLOW US ON

DIGITAL DENTISTRY
CUSTOM-MADE MEDICAL DEVICES

btk Implanting Trust, Smile Again!

JUXTA-OSSEOUS IMPLANTOLOGY.

Known for decades, now perfected

BTK IUXTA-3D is an innovative, customized sub-periosteal titanium implant.

Juxta-osseous implantology is a surgical technique that has featured high failure rates in the past due to unsuitable clinical protocols and limited technological resources. It was progressively abandoned due to scarcely predictable short- and long-term follow-up outcomes.
Now, IUXTA-3D revolutionizes this technique and exploits the quality and precision of the most innovative digital methods for the design and production of the implant.
This permits to obtain a veritable "bespoke" solution for patients and improves the predictability of this new surgery.

100% DIGITAL, 100% CUSTOMIZED.

IT MEETS THE EXPECTATIONS OF CLINICIANS AND PATIENTS.

STATE OF THE ART PRECISION AND CUSTOMIZATION.

- REDUCED DURATION OF REHABILITATION
- PERFECT ANATOMIC CONFORMATION
- TECHNICAL SUPPORT
- DEDICATED SURGICAL KIT WITH CORTICAL SCREWS

visit **btk.dental**

Implanting Trust, Smile Again!

BIBLIOGRAPHY

Cerea M: Una soluzione alternativa al rialzo di seno. Italian Dental Journal. Anno 6. nr. 3/2001; pp. 5-8.

Cerea M: Oltre il seno: l'impianto pterigoideo. Giornale dell'Odontoiatra.15/05/2011.n°6; pp. 7-8.

Cerea M, Olivetti F, Olivetti M: trattamento di grave atrofia mascellare con griglia e pterigo, www.Italian Dental Journal .it. Dental Academy.it

Virgilio F. Ferrario, Carlo Miani, Alberto Miani: Lineamenti di biomeccanica della masticazione nella pratica gnatologica. Milano: Edi.Ermes, 1988.

Raghoebar GM: 110th volume of Dutch Journal of Dentistry 4. Application of dental implants during the last decades: from subperiostal to transosteal and endosseus implants. Ned.Tijd-schr.Tandheelked. 2003 Nov;110(11);422-9.

Weiss CM, Reynolds T: A collective conference on the utilization of subperiostal implants in implant dentistry. J.Oral Implantol.,2000;26(2):127-8.

E.Lloyd Dubrul. Anatomia orale di Sicher.Edizione Italiana a cura di A.Miani e V.F.ferrario. Milano EdiErmes 1988.

Schneider D, Marquardt P, Zwahlen M, Jung RE. A systematic review on the accuracy and the clinical outcome of computer-guided template-based implant dentistry. Clin. Oral Impl. Res. 20 (Suppl. 4), 2009; 73–86. doi: 10.1111/j.1600-0501.2009.01788.x

W. De Vos, J. Casselman, G. R. J. Swennen: Cone-beam computerized tomography (CBCT) imaging of the oral and maxillofacial region: A systematic review of the literature. Int. J. Oral Maxillofac. Surg. 2009; 38: 609–625.

Rafi, H., Karthik, N., Gong, H., Starr, T.L. and Stucker, B.E. "Microstructures and mechanical properties of Ti-6Al-4V parts fabricated by Selective Laser Melting and Electron Beam Melting". Journal of Materials Engineering and Performance, 2013, 1-12.

Vandenbroucke, B. and Kruth, J.P. "Selective Laser Melting of biocompatible metals for Rapid Manufacturing of medical parts". Rapid Prototyping Journal, 2007, 13.4: 196-203.

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.

btk the smile system®

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**

FOLLOW US ON