

Qualia™NeoActive

Conical connection implants





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Our Company



Founded in 2018, Headquartered in Dubai. U.A E, Qualia Experiences FZ-LLC is showing the dental implant industry how a strong business model can service the customers effectively and economically. Qualia Experiences FZ-LLC is a full line top quality, compatible dental implants and accessories at a reasonable cost. we supply Dental Clinics, Doctors, Hospitals and laboratories every type of specialized dental equipment for endodontics, implant ology, Bone and membrane, dental kits. we built a well-known, impeccable reputation in the community. Our management has many years' experience in the fields of dental implants.

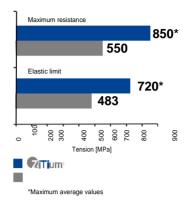
At Qualia Experiences FZ-LLC we are not only the most-competitively priced, service-oriented supply company in the nation; we are now the best full line compatible dental implants and accessories supply company.

We are located in Dubai, but serve customers across the country of United Arab Emirates and beyond.

Two key differences between Qualia Experiences FZ-LLC and most other distributors are our broad product offering and our supply base. We are very proud to represent the leaders in dental implant manufacturing, and we work closely with our suppliers to make sure that we continue to meet the needs of our customers.

True to our entrepreneurial spirit, we continue to seek new solutions and products that meet the new demands of the sector. Therefore, we entered in agreement with BIOSTAR® Laboratorios, SLU a Spanish manufacture for the exclusive production and manufacture of QualiaTMNeoActive implants made of premium high strength materials of high quality and biocompatible.

Like our motto goes "were quality meets service", our promise to our customers is to continue improvement and sourcing out the best quality products available, at reasonable cost combining with best service that goes beyond the sale.



Certified quality We strive for excellence

Qualia[™]NeoActive implants are made of extra-hightension grade 4 titanium which gives it a substantial improvement in its elastic limit and mechanical properties, as well as keep the compliance with the requirements of Standards and Certificates according to the requirements of the Medical Directive 93/42/EEC and its amendment 2007/47/EC by the 0051 notified body. The Qualia[™]NeoActive implants are sterilized by Beta Rays irradiation at 25kGy.

BIOSTAR® Laboratorios, SLU has the manufacturer's license for medical devices and the commercial authorsation by the AEMPS 6425-PS (Spanish Agency for Medicines and Medical Devices). Our quality management system is certified according to the requirements of the UNE-EN-ISO 9001:2015 and UNE-EN-ISO 13485:2016 standards, also complying with the requirements of GMP 21 CFR 820.



Manufacturer: Biostar Laboratorios SLU C/ Laguna del Marquesado, 19 28821 - Madrid - ESPAÑA



Manufacture Qualia ™NeoActive



Biostar Laboratorios, SLU C/Laguna del Marquesado, 19 28021 Madrid - España





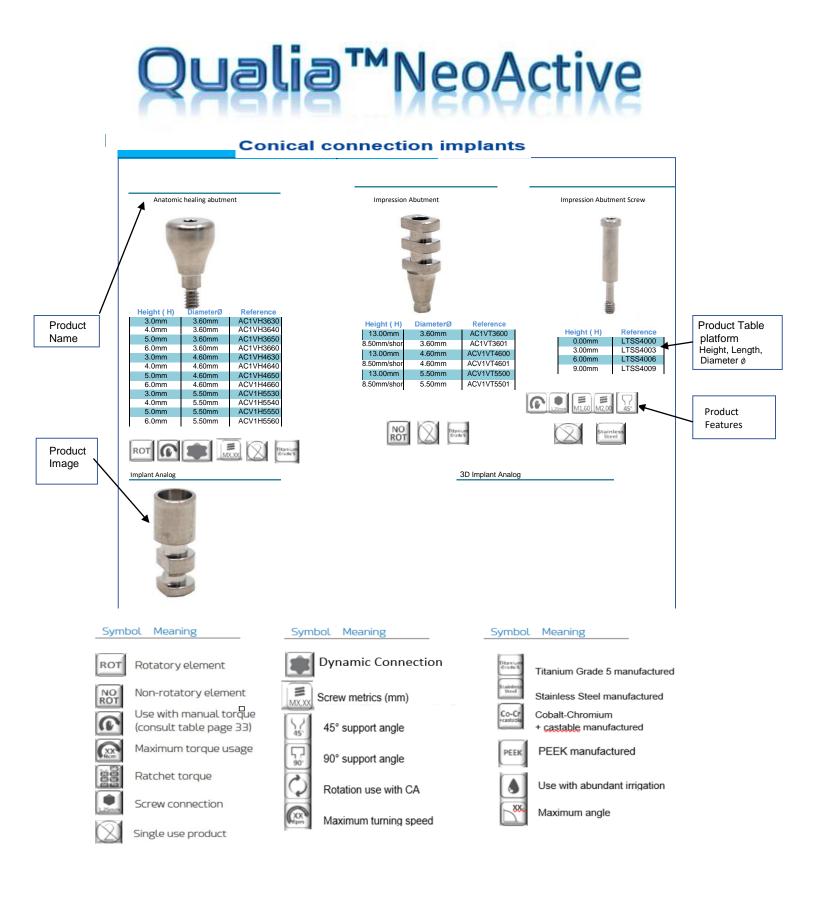
Distributor Qualia ™NeoActive



Qualia® NeoActive QNA







Qualia™NeoActive

Conical connection implants Features

CONNECTION

- »Conical connection: 11° morse taper with double internal hexagon
- »Conical sealing: no infiltration
- »Friction fit: no micro-movements
- »RP single platform for all diameters
- » Platform switch: soft tissue formation and emergence profile shaping

CORTICAL AREA

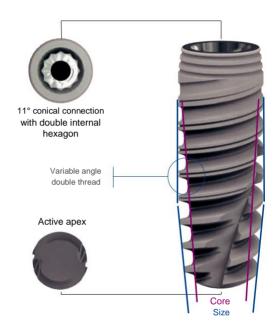
- »Micro-thread design: preserves marginal bone, reduces cortical stress and improves load distributions
- »Inverted cone cortical macro-design: no cortical compression (except for 3,40mm diameter implant)

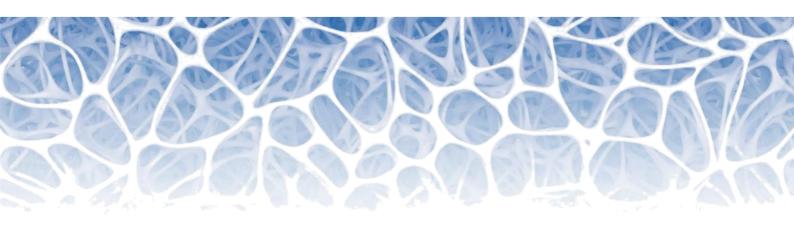
BODY

- »Double lead thread: quick insertion to reduce surgical time
- »Grooved canal threads and plateau: releases bone stress and enables fluid flow
- »Variable geometry thread: provides high primary stability:
 »Coronal thick trapezoidal thread
- »Medium thinner trapezoidal thread
- » Apical V-shaped thread
- »Optimized morphology
- » Apical oblique vents: collect bone detritus during the insertion and facilitates a change of insertion axis
- »Active apex (self-tapping): makes the implant insertion easy with undersized drilling technique
- »Atraumatic apex: protects anatomical structures

CONICAL DESIGN

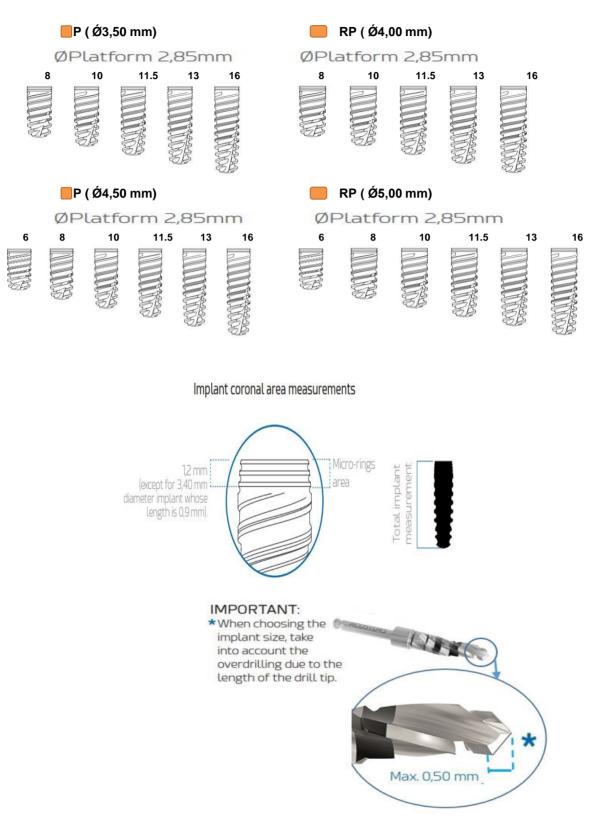
- »Facilitates bone shaping at low density
- »Indicated for immediate loading
- »Indicated for immediate post-exodontic placement
- »Indicated for apical collapse situations





Available diameters and lengths

Lengths in mm



Usage recommendations

All implant planning must respect the natural biomechanical stability of the oral cavity and allow the natural emergence of the dental crown, through the soft tissue, by means of an implant with a pros-thetic platform whose diameter is proportionally smaller than the emergence diameter of the tooth to be restored. The implantologist must assess the quantity and quality of bone in the recipient area of the implant and consider the need for prior or simultaneous bone regeneration as appropriate.

Qualia[™]NeoActive has a broad range of implants to cover every restoration possibility.

In the odontogram, the inverted trapezoids identified with letters represent the diameters and platforms of the implants recommended for these dental positions. These recommendations apply to teeth replacement with single restoration, bridges and partial or total implantretained tissue-supported prosthesis.

Remember to maintain minimum distances between adjacent implants and/or implants and teeth, to preserve papillae, bone vascularization and natural emergence profiles.

The choice of the appropriate implant, in each case, is the exclusive responsibility of the clinician. Qualia™NeoActive Medical recommends taking into account warnings based on scientific evidence contained in product catalogues and website.

CLARIFICATIONS ON MEASUREMENT AND DRILLING TECHNIQUES:

- IMPLANT SIZE: identifies implant diameter and length.
- · IMPLANT BODY: implant core diameter.
- DRILL MEASUREMENT: corresponds to the drill diameter and length.
- UNDERSIZED DRILLING TECHNIQUE: surgical site prepa-ration with final drill of lower diameter than the implant body. Technique associated with high insertion torque and increased primary stability.

Important: possible increased risk of bone necrosis due to pressure.

 SIMPLIFIED DRILLING TECHNIQUE: technique proposed by Coelho and Cols in 2013 (1). It consists of the use of pilot drill and final drill corresponding to the size of the implant. It re-duces drilling sequence but with risk of bone necrosis due to thermal increase.

Odontogram

Qualia[™]NeoActive

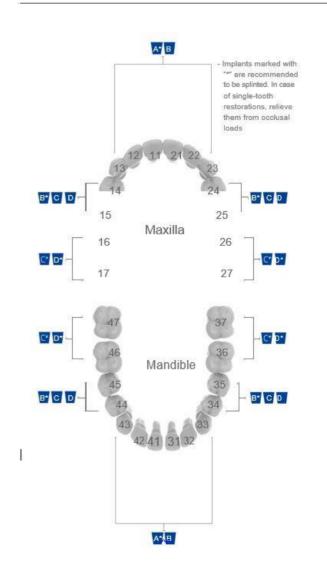
Implant diameter



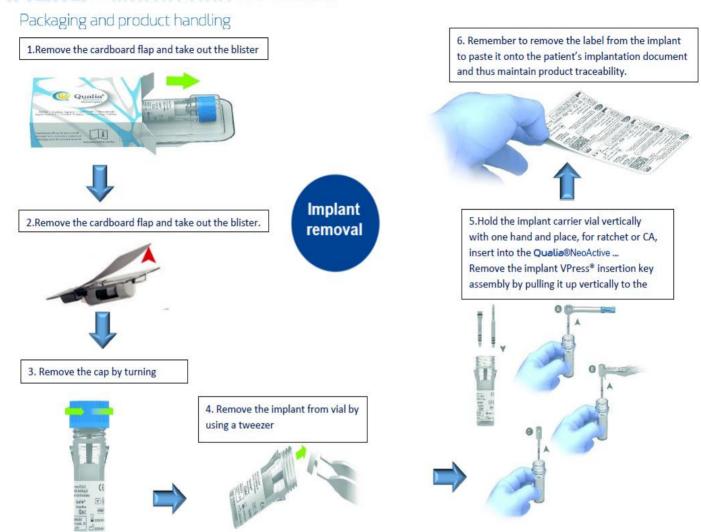
Coronal implant diameter

RP

Ø2,85mm



Qualia[™]NeoActive No Mount

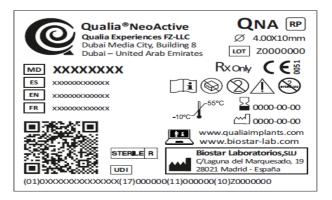


Qualia[™]NeoActive No Mount implants are packaged in a sealed carton box with a product label for immediate identification. It contains:

- Instructions for Use (IFU).
- Implant blister: heat-sealed, with product identification labels for correct traceability. Its flap facilitates opening in clinic and prevents accidental opening. Contains: implant carrier vial.
- Implant carrier vial: contains vertically suspended implant.
- Product identification label data: product reference, platform, implant diameter and length, product description, batch num-

ber, product manufacturer, expiration date and product identification symbols.

Note. Do not open the sterile container until the time of implant placement.



Description of the symbology used

CE 	MDD CE certification and notified body	۲	Do not resterilise
MD	Name of the medical device	}	Do not use if the packaging is damaged
	Number of product batch	8	Non-reusable product
1	Patient information website	[]i]	Consult the instructions for use
UDI	Unique device identification	25	Expiry date of the product
	Beta sterile product	m	Date of manufacture
X	Temperature restriction	***	Product manufacturer
Â	Caution, consult accompanying documents	Rx Only	Caution: federal law prohibite dispensing

RxOnly Caution: federal law prohibite dispensing without prescription

Features and references

Qualia[™]NeoActive No Mount implant packaging option allows you to use an insertion key direct to implant, remove it from the implant carrier vial and bring it to your surgical site easily and safety.

- No Mount system instruments:
- »VPress® insertion key for contra-angle.
- »VPress® insertion key for ratchet.

Qualia[™]NeoActive No Mount implant has the advantage of avoiding its handling to disassemble the Mount, removing the occasional difficulty of access to the location with reduced mouth opening or suppressing the risk of primary stability reduction due to overinstrumentation.

The plastic vial holds the implant vertically between a lower titanium plate and an upper washer also made of titanium, providing stability without movement, while avoiding contact.



IMPLANT			PLATFORM								
Ø (mm)	Ø Core (mm)	Length	Reference	Туре	Ø (mm)	Internal Metric					
		8 mm	AC3580								
		10 mm	AC3510								
3.5		11.5 mm	AC3511								
		13 mm	AC3513								
		16 mm	AC3516								
		8 mm	AC4080								
		10 mm	AC4010		2.85						
4.0		11.5 mm	AC4011								
		13 mm	AC4013	RP		M 1,60	(2) 2,1				
		16 mm	AC4016								
		6 mm	AC4560				(1) 2,55 mm				
		8 mm	AC4580								
4.5		10 mm	AC4510								
4.5		11.5 mm	AC4511								
		13 mm	AC4513								
		16 mm	AC4516								
		6 mm	AC5060								
		8 mm	AC5080								
5.0		10 mm	AC5010								
3.0		11.5 mm	AC5011								
		13 mm	AC5013								
		16 mm	AC5016								



between plate and washer

No Mount Cover screw:

*

In Qualia™NeoActive No Mount option, cover screws are supplied separately. Refer to the references in the table below

Cover screw*



Length (L)	Reference
5.10mm	





Osseoactive[™] Surface treatment

Osseoactive[™] surface, textured by subtraction using sandblasting with white corundum and double etching of hydrofluoric acid and a combination of sulphuric and phosphoric acid, creates a macro and micro porosity with optimum average values whose key characteristics for achieving a correct and rapid osseointegration which gives it reliability and predictability.

Main features:

- Pure TIO₂ surface
- Macro/micro-porosity surface design
- Homogeneous porosity
- Excellent average values
- Osteoinductive surface
- · High level of biological stability
- · Surface structure similar to human bone
- · High level of surface wettability
- · Contaminant-free surface topography

Osseoactive _™ has a thicker [¬]	TIO ₂ layer than most current surfaces.
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	O (% At)	C (% At)	Ti (% At)	N (% At)	Si (% At)	Ca (% At)	Layer thickness TIO ₂ (Nm)
Osseoactive™	43.9	34.9	18.0	0.6	0.5	0.5	16-25
Plasma Spray	45.5	38.9	14.2	1.4			5.5
Mechanised	39.7	36.9	20.1	1.1	1.7	0.2	5.7
Sandblasting and Etching A.	51.4	34.9	14.5	1.3	Traces		5.7
Double acid etching	36.2	53.7	6.8	5.4	3.3		Not available
Note:							

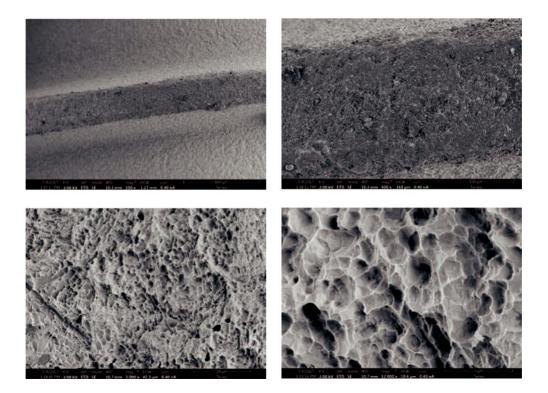
- The elements are expressed in atomic %

- These are the elements present in the greatest quantity; other elements may be present in trace amounts or lesser proportions.

Shorter times

Several scientific studies have shown that mixed treatment surfaces with a rugged or porous surface considerable increase bone implant contact and accelerate the osseointegration process against implants with conventional surfaces. Osseoactive [™] surface facilitates rapid cell adhesion, thus obtaining excellent biological stability that favors the osteogenesis process. At the same time, it significantly reduces the period of osseointegration and increases the percentage of clinical success.

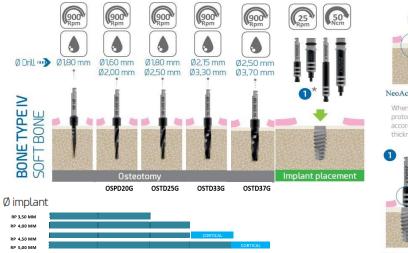
IMAGES TAKEN USING AN ELECTRONIC MICROSCOPE S.E.M





Surgical drilling protocol with Qualia™NeoActive







NeoActive DRILLS CORTICAL ZONE

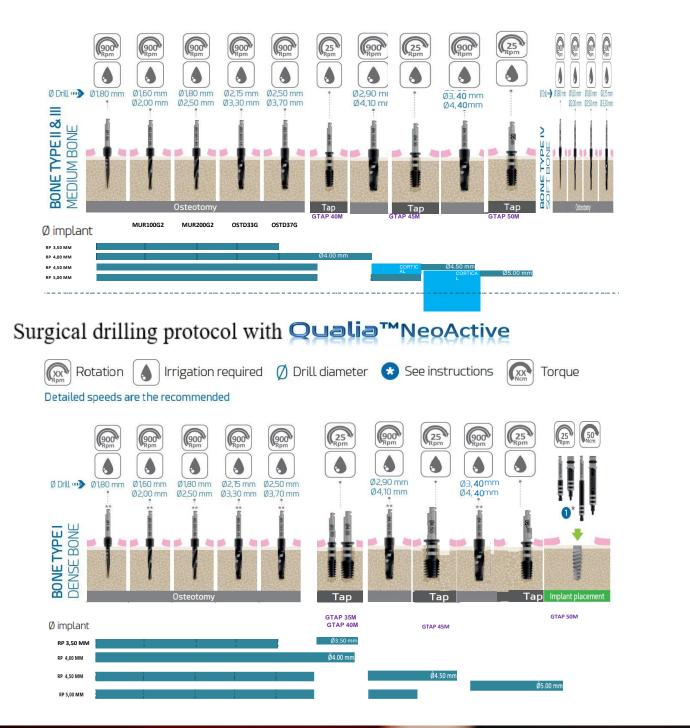
When **CORTICAL** is indicated in the protocol, it is recommended to drill according to the length of the cortical bone thickness for each clinical case.



VPress® depth measurements

VPress® insertion keys for RP have horizontal marks to guide the depth of the implant placement, according to each clinical case.

* If the implant is not fully inserted using the maximum recommended torque, the implant must be removed and the drilling repeated, then the insertion must be performed.









Qualia[™]NeoActive

CONICAL CONNECTION PLATFORMS



Impression Abutment				
Height (H)	DiameterØ	Reference		
13.00mm	3.60mm	AC1VT3600		
8.50mm/shor	3.60mm	AC1VT3601		
13.00mm 4.60mm ACV1VT4600				
8.50mm/shor 4.60mm ACV1VT4601				
13.00mm	5.50mm	ACV1VT5500		
8.50mm/shor	5.50mm	ACV1VT5501		







3D Implant Analog

Length (L)	Reference
12.00mm	AC1VIA34D
Stainless Steel	8 🛛

Provisional Abutment



Base Abutment +Castable Abutment

HEX	
Length (L)	Reference
10.50mm	
Titanium Grade5 Co-Cr reastable	



HEX		
Height (H)	Length (L)	Reference
1.50mm	10.50mm	AC1VRU3615
3.00mm	12.00mm	AC1VRU3630
ROT Nem 1.20	₩1.60 M	200



NON - HEX

NON -HEX

Height (H) 1.50mm 1.50mm 1.50mm

NO ROT

Length (L) 9.00mm 9.00mm 9.00mm

E E

Straight Abutment



HEX

Height (H)	Length (L)	DiameterØ	Reference
1.50mm	9.00mm	3.6	AC1VXS3615
2.50mm	10.50mm	3.6	AC1VXS3625
3.50mm	10.50mm	3.6	AC1VXS3635
1.50mm	9.00mm	4.6	AC1VXS4615
2.50mm	10.50mm	4.6	AC1VXS4625
3.50mm	10.50mm	4.6	AC1VXS4635
1.50mm	9.00mm	5.5	AC1VXS5515
2.50mm	10.50mm	5.5	AC1VXS5525
3.50mm	10.50mm	5.5	AC1VXS5535

17D Angled Abutment



15

Reference AC1VXS3615N AC1VXS4615N AC1VXS5515N

> um c5

DiameterØ 3.6 4.6 5.5

T (

HEX			
Height (H)	Length (L)	DiameterØ	Reference
1.50mm	9.00mm	3.6	AC1VX3615
2.50mm	10.50mm	3.6	AC1VX3625
3.50mm	10.50mm	3.6	AC1VX3625
1.50mm	9.00mm	4.6	AC1VX4615
2.50mm	10.50mm	4.6	AC1VX4625
3.50mm	10.50mm	4.6	AC1VX4625
ROT 30	E E	Titanium 45°	

30D Angled Abutment



		-	v
r	1		^

Height (H)	Length (L)	DiameterØ	Reference
1.50mm	9.00mm	3.6	AC1VX23615
2.50mm	10.50mm	3.6	AC1VX23625
3.50mm	10.50mm	3.6	AC1VX23635
1.50mm	9.00mm	4.6	AC1VX24615
2.50mm	10.50mm	4.6	AC1VX24625
3.50mm	10.50mm	4.6	AC1VX24635

NON-HEX			
Heigth (H)	Length (L)	DiameterØ	Reference
1.50mm	9.00mm	3.6	AC1VX23615N
	M1.60 M2.00	45°	5

Scan Body for Implant

Length (L) Reference 9.00mm AC1VFNSY36 Not with the second seco Scan Body to Ti Base

NON-HEX

NO

30

Height (H) Length (L) Dia 1.50mm 9.00mm

M1.60 M2.00

DiameterØ

71

3.6

Titanium Grade 5

Reference AC1VX3615N

Length (L) Reference 7.00mm AC1VFNSY36T L

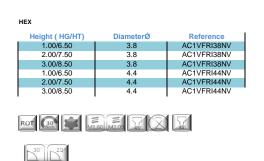
HEX

Height (HG/HT)	DiameterØ	Reference
1.00/5.50	3.8	AC1VFRI3810
2.00/6.50	3.8	AC1VFRI3820
3.00/7.50	3.8	AC1VFRI3830
1.00/5.50	4.4	AC1VFRI4410
2.00/6.50	4.4	AC1VFRI4420
3.00/7.50	4.4	AC1VFRI4430

NON - HEX

Height (HG/HT)	DiameterØ	Reference
1.00/5.50	3.8	AC1VFRI3810N
2.00/6.50	3.8	AC1VFRI3820N
3.00/7.50	3.8	AC1VFRI3830N
1.00/5.50	4.4	AC1VFRI4410N
2.00/6.50	4.4	AC1VFRI4420N
3.00/7.50	4.4 M1.60 M2.00	AC1VFRI4430N

Dynamic Ti Base



Multi Unit Abutment Straight

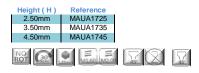
NON - HEX			
Height (HG/HT)	DiameterØ	Reference	
1.00/6.50	3.8	AC1VFRI38N	√N
2.00/7.50	3.8	AC1VFRI38N	√N
3.00/8.50	3.8	AC1VFRI38N	√N
1.00/6.50	4.4	AC1VFRI44N	√N
2.00/7.50	4.4	AC1VFRI44N	√N
3.00/8.50	4.4	AC1VFRI44N	√N
	E		45°



Multi Unit Abutment Angled 17D

	Height (H)	Reference	
	1.50mm	MAUS15	
	2.50mm	MAUS25	
	3.50mm	MAUS35	
30 Nem	Basic [®] ROT		■ ■ M1,60 M2,00

Multi Unit Abutment Angled 30D



Impression Transfer Multi Unit Abutment

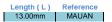




Multi Unit Analog



Multi Unit Analog 3D





ROT

R

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Healing Multi Unit Abutment

Cylinder Multi Unit Abutment

Height (H) Reference 5.00mm MAUH



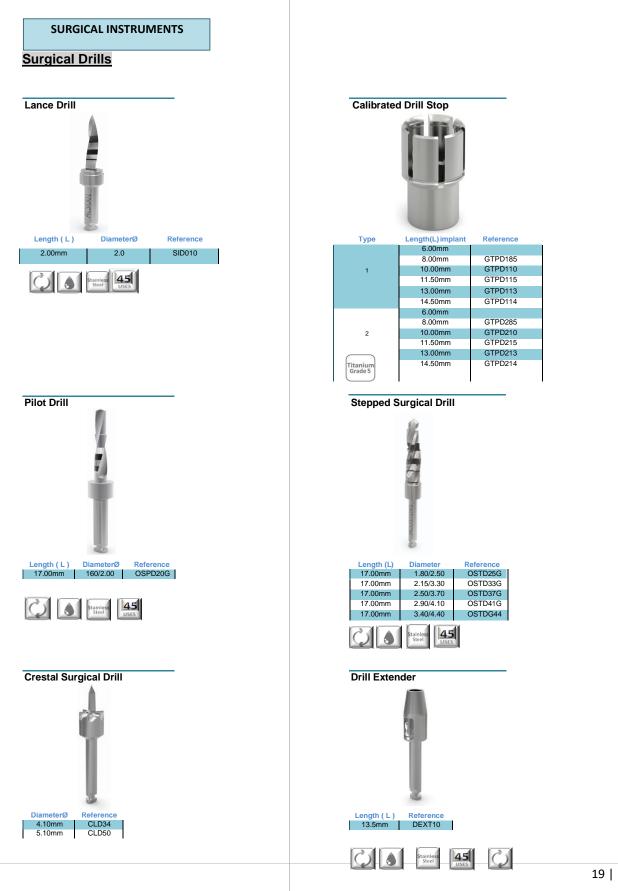
Plastic Cylinder Multi Unit Abutment



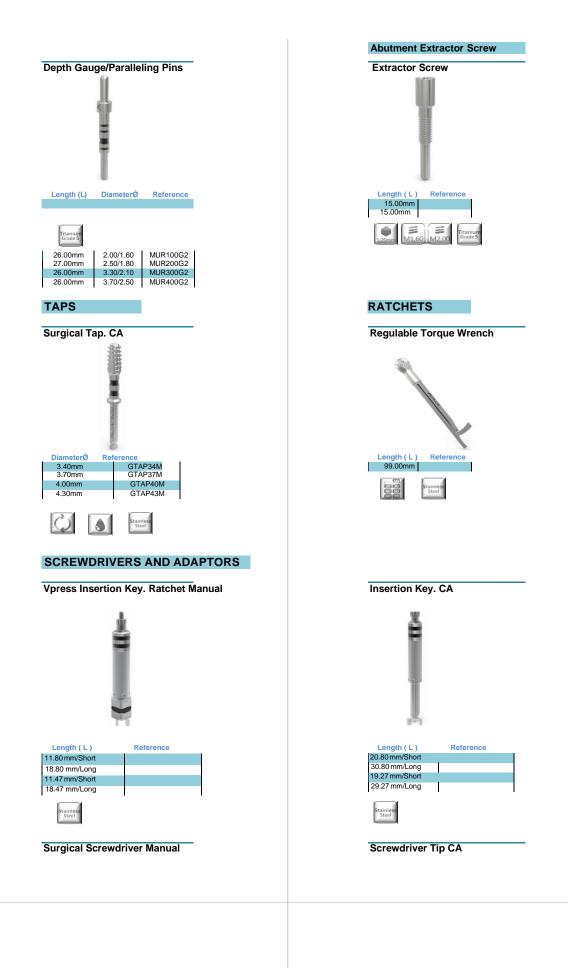
Scan body Multi Unit Abutment

Length (L)	Reference
8.00mm	MAUP
ROT	PEEK

Length (L)	Reference
7.00mm	MAUSB
ROT	E E M1.60

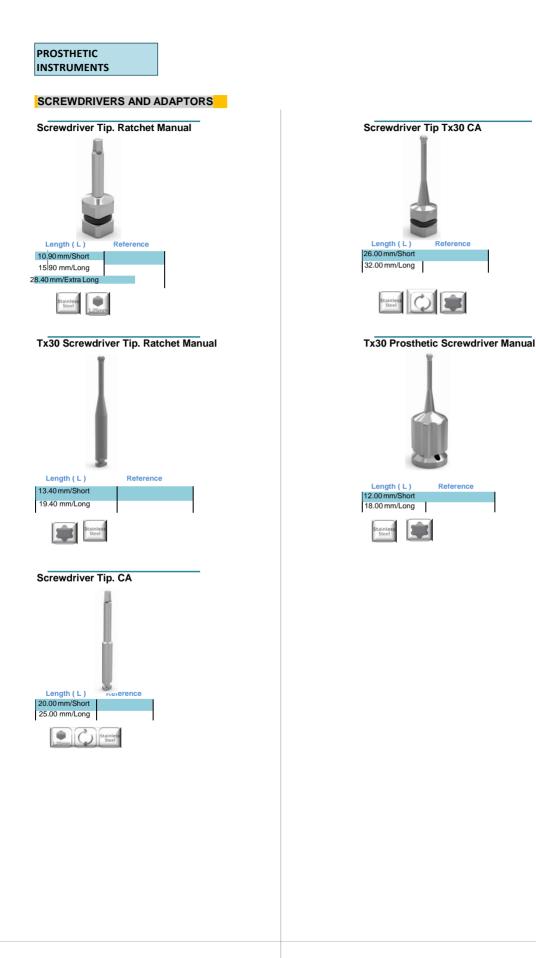


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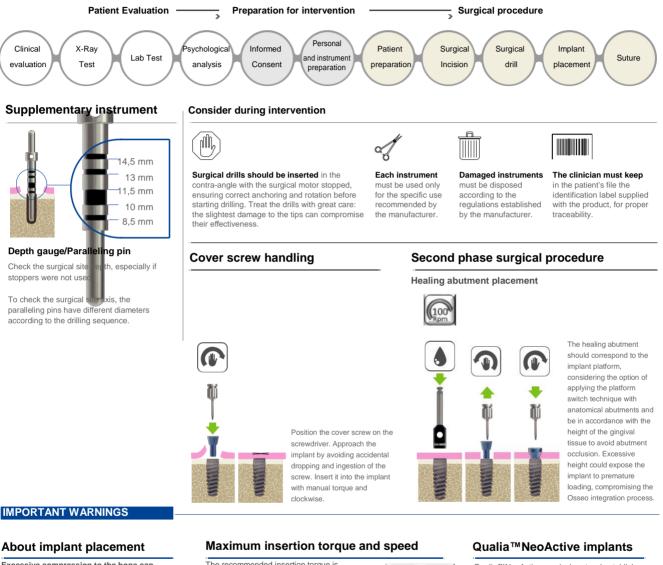
Length (L)	Reference	
20.00 mm/Short		
25.00 mm/Long		
Stainless Steel		



Jualia™NeoActiv

General recommendations

Treatment Planning



Excessive compression to the bone can lead a non-Osseo integration of the implant.

Failure to follow the steps described in

- the surgical sequence may result in:
 - · Lack of primary stability due to loss of support bone
 - · Difficulties during the implant placement

Exceeding the torque (50 Ncm) at the

- implant insertion can produce:
 - · Irreversible distortions in the
 - internal/external connection.
 - · Irreversible deformations in the instruments indicated for insertion of
 - the implant.
 - · Difficulty of disassembling the instrument/implant assembly

- The recommended insertion torque is
 - between 35 and 50 Ncm according to each 35 case without being limited to a single torque [1], [2

(25

The Implant placement should be performed with controlled torque and according to the density and bone

Insertion instruments or contra-angle (CA) screwdrivers use maximum speed of:

You can consult the bibliography at the end of this catalogue.

Qualia™NeoActive surgical protocol establishes a crestal position of the implant platform.

To avoid cortical stress and deformation of the key and/or connection of the implant, insertion with contra-angle (CA) must respect the maximum recommended rpm (25 Rpm) and the maximum indicated torque (50 Ncm).

If the implant is not fully inserted using the maximum recommended torque, the implant must be removed and the drilling repeated, then the insertion must be performed.

Check the final insertion torque with the regulable torque wrench Ref. TORK70 or with CA

Make sure that the entire implant with Osseoactive®surface treatment is completely covered with bone.



Surgical drills

The Qualia[™]NeoActive surgical drill length measuring system is simple and intuitive and allows you to guide you through the surgical site drilling process. It is recommended for use with irrigation and is made of stainless steel with a maximum use limit of 45. It is important to note the length of the end drill tip, because it is NOT INCLUDED in the length measurements of the end drill.

Millimeter drills:

Laser marking on the drills rod identifies their diameter, and the band horizontal laser marking in its active part represents the different lengths of the implants. They are used in straight or cylindrical body implants.



A surgical procedure is always preceded by a consultation between dentist and patient. Having different informative visual media suitable for the patient, brochures and leaflets, is important and necessary, to show clear and easily the advantages of the treatment. All the contents of this material have a scientific basis and are

presented clearly and easily to understand. The aim is to help the professionals to explain all medical and technical issues using images and texts. It helps patient to better understand the information provided during the consultation in the clinic before the intervention and widen his knowledge through further readings.

Qualia[™]NeoActive

Includes:

- Large show-piece implant Qualia[™]NeoActive
- · Milling abutment with crown
- Conventional bridge
- Removable prepared teeth
- · Detachable gingiva

Tapered drills:

Laser marking on the drills rod identifies its largest and smallest diameter and length. The drills have conical geometries adapted to the size of each implant, both in diameter and length. That it's means, every diameter and length of implant has a final drill. They are used in conical body implants.

Stepped drills:

The stepped geometry of the drills has been specially designed for the tapered core or reduced apical diameter implants. The laser marking on the drill rod identifies its diameter and the horizontal band of the laser marking. The active area represents the different lengths of the implants.

Instructions for cleaning and disinfection of: instruments and boxes (surgical and prosthetic)

Protocol to be carried out by qualified personnel for the preparation of instruments and surgical/prosthetic boxes for use. **ATTENTION**: the instruments and

surgical/prosthetic boxes must be

cleaned and disinfected after each use and sterilized before their next use. Pay attention to sharp elements, the use of gloves is recommended to avoid accidents during handling when following these instructions. Do not clean or disinfect instruments of different materials together.

Cleaning and disinfection of instruments

1 - Disassembly

2 - Cleaning

3 - Disinfection

- •Disassemble the instruments that require it such as manual ratchets (see diagram below), drills and drill stops...
- Disassemble the surgical/prosthetic boxes into their components for proper cleaning.
 Uncouple the micro-implants insertion key from the handle (see diagram below).



4 - Inspection

- Immerse the instruments in a solution of a cleaning agent suitable for dental instruments to facilitate the removal of adhering biological debris.
- Remove biological residue manually with a soft brush and pH-neutral detergent.
 Rinse with plenty of water.
- Perform a final rinse with deionized water.
- Always use pH-neutral detergents and nonabra-sive tools to clean surgical/prosthetic boxes so as not to damage the surfaces of the box.
- •Immerse the instruments in a disinfectant explicitly indicated for dental instruments.
- •For disinfection with ultrasonic equipment: immerse the material in the ultrasonic bath.
- Rinse with plenty of deionized water to remove any residues of the disinfectant.
- •Dry the material with filtered compressed air. IMPORTANT:
- -Follow the instructions of the disinfectant manufacturer to determine concentrations and times.
- -Follow the instructions of the manufacturer of the ultrasound equipment to determine temperature, concentration and times.
- •Check that the instruments are perfectly clean, otherwise repeat the above cleaning and disinfection steps.
- Discard instruments that show damage and replace them for the next surgery.
- · Verify that the instruments and surgical/pros-



Bibliography

Surface treatment

 Surface roughness alters osteoblast proliferation, differentiation and matrix production in vitro. And participates in the determination of phenotypic expression of cells in vivo. Martin JY1, Schwartz Z, Hummert TW, Schraub DM, Simpson J, Lankford J et al. Effect of titanium surface roughness on proliferation, differentiation, and protein synthesis of human-osteoblast-like cells (MG63). J Biomed Mater Res.1995;29(3):389-401.

The response of bone cells to systemic hormones is modified by surface roughness and increases the responsiveness of MG63 cells to 1 alpha, 25- (OH) 2 D3

Boyan BD, Batzer R, Kieswetter K, Liu Y, Cochran DL, Szmuckler-Moncler S, Dean DD, Schwartz Z. Titanium surface roughness alters responsiveness of MG63 osteoblast-like cells to 1 alpha, 25-(OH)2D3. J Biomed Mater Res. 1998;39(1):77-85.

Surface roughness can modulate the activity of cells that interact with an implant, and therefore affect tissue healing and implant success.

Kieswetter K1, Schwartz Z, Hummert TW, Cochran DL, Simpson J, Dean DD et al. Surface roughness modulates the local production of growth factors and cytokines by osteo-blast-like MG-63cells. J Biomed Mater Res. 1996;32(1):55-63.

When comparing different surface topographies, it should be noted that surface chemistry can be an influential variable Morra M1, Cassinelli C, Bruzzone G, Carpi A, Di Santi G, Giardino R et al. Surface chemistry effects of topographic modification of titanium dental implant surfaces: 1. Surface analy-sis. Int J Oral Maxillofac Implants. 2003;18(1):40-45.

 Surface roughness produced by sand blasting and acid etching affects cell adhesion mechanisms, providing better osseo-integration. • Highest degree of bone-implant bonding on a sandblasted surface and acid etching than others.

Buser D, Schenk RK, Steinemann S, Fiorellini JP, Fox CH, Stich H. Influence of surface char-acteristics on bone integration of titanium implants. A histomorphometric study in minia-ture pigs. J Biomed Mater Res. 1991;25(7):889-902.

Orsini G, Assenza B, Scarano A, Piattelli M, Piattelli A. Surface analysis of machined versus sandblasted and acid-etched titanium implants. Int J Oral Maxillofac Implants. 2000;15(6):779-84. Among the most desirable characteristics of an implant are those that ensure that the implant-tissue interface will be established quickly and can be maintained.

Gupta A, Dhanraj M, Sivagami G. Status of surface treatment in endosseous implant: a literary overview. Indian J Dent Res. 2010;21(3):433-8.

• Review of the literature on the influence of micro-design of dental implants on their osseo-integration.

Aljateeli M, Wang HL. Implant micro-designs and their impact on osseo-integration. Im-plant Dent. 2013;22(2):127-132.

• The success of a dental implant depends on the chemical, physical, mechanical, and topographic characteristics of its surface. The structural and functional attachment of the live-bone implant is greatly influenced by the surface properties of the implant. The influence of the topography of the osseo-integration surface has been translated into the shorter healing times of the placement of implants for the restoration. This article presents a discussion of the surface characteristics and the design of the implants, which should allow the clinician to better understand osseo-integration and the information coming from implant manufacturers, which allows a better selection of the implant.

Ogle OE. Implant surface material, design, and osseo-integration. Dent Clin North Am. 2015;59(2):505-20.

 Implants with mixed surface treatment (SLA type) presented increased bone crest at 3 and 12 months under loading conditions.

Valderrama P, Bornstein MM, Jones AA, Wilson TG, Higginbottom FL, Cochran DL. Effects of implant design on marginal bone changes around early loaded, chemically modified, sandblasted Acid-etched-surfaced implants: a histologic analysis in dogs. J Periodontol. 2011;82(7):1025-1034.

Implant size choice

 When it comes to severe atrophy of the jaws, short and wide implants can be placed suc-cessfully (28 included studies, between 1991 and 2011).

Karthikeyan I, Desai SR, Singh R. Short implants: a systematic review. J Indian Soc Peri-odontol. 2012;16(3):302-312.

 Survival of the implants (short <10 mm) is improved with longer length, placement of the mandible with respect to the maxilla, and in non-smokers (a systematic review of the prognosis of short implants, [<10 mm], in the partially edentulous patient).

Telleman G, Raghoebar GM, Vissink A, den Hartog L, Huddleston Slater JJ, Meijer HJ. A sys-tematic review of the prognosis of short (<10 mm) dental implants placed in the partially edentulous patient. J Clin Periodontol. 2011;38(7):667-676.

 Among the risk factors examined, most failures of short implants can be attributed to poor bone quality in the maxilla and surface treatment (35 studies in humans met the criteria.) The studies included 14,722 Implants, failure rates of implants with lengths of 8.5 and 9, were 3.2%, and 0.6% respectively).

Sun HL, Huang C, Wu YR, Shi B. Failure rates of short (≤ 10 mm) dental implants and factors influencing their failure: a systematic review. Int J Oral Maxillofac Implants.

2011;26(4):816-825.

Short-surface rough implants should be considered a solution for restoration of posterior teeth in highly reabsorbed areas (short threaded implants with a rusted surface to restore posterior teeth:
1 to 3 years of results from a prospective study of 107 implants ,
69.2% were 7 mm long, 30.8% were 8.5 mm long, survival rate 98.1%).

De Santis D, Cucchi A, Longhi C, Vincenzo B. Short threaded implants with an oxidized sur-face to restore posterior teeth: 1 to 3year results of a prospective study. Int J Oral Maxil-Iofac Implants. 2011;26(2):393-403. The wide platform provides increased mechanical strength of the connection being im-portant for mechanical stability (the results of a 3-year prospective multi-centred clini-cal trial and the results at 1 year from a multi-centre 2 retrospective clinical study. Wide diameter implants for molar replacement).

Polizzi G, Rangert B, Lekholm U, Gualini F, Lindstrom H. Brånemark System Wide Platform implants for single molar replacement: clinical evaluation of prospective and retrospec-tive materials. Clin Implant Dent Relat Res. 2000;2(2):61-69.

 Small diameter implants can be successfully included in implant treatment. Preferable in cases where space is limited.
 Overall survival rate of 95.3% (192 small diameter implants placed in 165 patients from 1992 to 1996. Of 2.9 mm or 3.25 mm in diameter, the overall survival rate was 95.3%).

Vigolo P, Givani A, Majzoub Z, Cordioli G. Clinical evaluation of small-diameter implants in single-tooth and multiple-implant restorations: a 7-year retrospective study. Int J Oral Maxillofac Implants. 2004:19(5):703-709.

 Associated narrow-diameter implants could be considered for use with fixed restorations and lower overdentures, as their success rate appears to be comparable to that of regular-diameter implants (42 studies from 1993 to 2011. 10,093 FDI approximately 2,762 The reported survival rates for SDI are similar to those reported for standard width implants.

Sohrabi K, Mushantat A, Esfandiari S, Feine J. How successful are small-diameter im-plants? A literature review. Clin Oral Implants Res. 2012;23(5):515-525.

For complete superior best 6 implants, survival rates: 97.9% at 5 years and 95.9% at 10
years. For partial dentures fixed on 2 to 4 implants, survival rates:
98.9% at 5 years and 97.8% at 10 years. For complete upper set on
4 to 6 implants, survival rates were 97.9% at 5 years and 95.9% at
10 years (from 210 articles were selected 51).

Heydecke G, Zwahlen M, Nicol A, Nisand D, Payer M, Renouard et al. What is the optimal number of implants for fixed reconstructions: a systematic review. Clin Oral Implants Res.2012;23(6):217-228.

Morse taper connection

 Among the risk factors examined, most failures of short implants can be attributed to poor bone quality in the maxilla and surface treatment (35 studies in humans met the criteria.) The studies included 14.722 Implants, failure rates of implants with lengths of 8,5 and 9, were 3,2%, and 0,6% respectively). Survival rate of the one-piece implant: 96.79% after 5 years. Review 20 articles (1995-2011).

Barrachina-Diez JM1, Tashkandi E, Stampf S, Att W. Long-term outcome of one-piece implants. Part I: implant characteristics and loading protocols. A systematic literature review with meta-analysis. Int J Oral Maxillofac Implants. 2013 Mar-Apr;28(2):503-18. doi: 10.11607/jomi.2790.

 In Morse Taper connection implants and change of platform there is less appearance of periim-plantitis and bone loss, as well as less inflammation and less loss of peri-implant soft tissue.

Macedo JP1, Pereira J1, Vahey BR2, Henriques B3, Benfatti CA3, Magini RS1, López-López J4, Souza JC3. Morse taper dental implants and platform switching: The new paradigm in oral implantology. Eur J Dent. 2016 Jan-Mar;10(1):148-54. doi: 10.4103/1305-7456.175677. From 287 studies identified (1961-2014), 81 studies were selected.

 The internal connection of Morse Taper is more effective in relation to biological aspects, allowing less bone loss and bacterial filtration in individual implants, including aesthetic regions. In addition, this type of connection can be successfully indicated for fixed partial dentures as it shows high mechanical stability.

Goiato MC1, Pellizzer EP, da Silva EV, Bonatto Lda R, dos Santos DM. Is the internal connec-tion more efficient than external connection in mechanical, biological, and esthetical point of views? A systematic review. Oral Maxillofac Surg. 2015 Sep;19(3):229-42. doi: 10.1007/s10006-015-0494-5. Epub 2015 Apr 25.

 Implant systems with Morse Taper connection provide better results in terms of abutment fit, connection stability and antibacterial seal performance.

Schmitt CM1, Nogueira-Filho G, Tenenbaum HC, Lai JY, Brito C, Döring H, Nonhoff J. Perfor-mance of conical abutment (Morse Taper) connection implants: a systematic review. J Biomed Mater Res A. 2014 Feb;102(2):552-74. doi: 10.1002/jbm.a.34709. Epub 2013 May 9.

- Subcrestal placement (SCL) of contiguous Morse Taper connection implants with 'platform change' was more efficient in preserving interim crestal bone than in equicrestals (ECL). Barros RR1, Novaes AB Jr, Muglia VA, Iezzi G, Piattelli A. Influence of interimplant distances and placement depth on peri-implant bone remodeling of adjacent and immediately loaded Morse cone connection implants: a histomorphometric study in dogs. Clin Oral Implants Res. 2010 Apr 1;21(4):371-8. PMID: 20128832 DOI: 10.1111/j.1600-0501.2009.01860.x
- The characteristics of the implant-abutment joint could be a reason for the observed differ-ences in mechanical stability.
 Micro-space observed in the internal hexagon connection versus undetectable separation in the Morse Taber.

Scarano A1, Mortellaro C, Mavriqi L, Pecci R, Valbonetti L. Evaluation of Microgap With Three-Dimensional X-Ray Microtomography: Internal Hexagon Versus Cone Morse. J Craniofac Surg. 2016 May;27(3):682-5. doi: 10.1097/SCS.000000000002563.

Radiographic templates

- For the choice of the size during the surgical planning, in those cases that is only available the diagnostic image in Orthopantomography format (OPG), there are available transparent acetate overlay, such as radio logical templates, different for each QUALIA[™]NEOACTIVE (*) implants family morphology, with the figures of the implants in scales 1:1,00 and 1:1,25 that are superimposed over OPG for thought comparison and measurement, to help to the choice of adequate diameter and length. The extensions of the templates correspond to magnifications of the most of OPG that are detailed. . QUALIA[™]NEOACTIVE (*) recommend the planning of the treatment with dental implants based on Cone-Bean Computed Tomography: CBCT
- Literature support the use of CBCT in dental implants treatment planning, especially in what means to lineal measures, tridimensional evaluation of the alveolar topography, proximity to vital anatomical structures and manufacturing of surgical guides.
 Benavides E1, Rios HF, Ganz SD, An CH, Resnik R, Reardon GT, Feldman SJ, Mah JK, Hatcher D, Kim MJ, Sohn DS, Palti A, Perel ML, Judy KW, Misch CE, Wang HL. Use of cone beam computed tomography in implant dentistry: the International Congress of Oral Implantologists consensus report. Implant Dent. 2012 Apr;21(2):78-86. doi: 10.1097/ ID.0b013e31824885b5.
- Pre operatory planning with CBCT implants allowed planning of the treatment with a high grade of prediction and concordance in comparison with surgical standard, based on panoramic radiography, which the prediction of the implant was deficient with. Guerrero ME1, Noriega J2, Jacobs R3. Preoperative implant planning considering alveolar bone grafting needs and complication prediction using panoramic versus CBCT images. Imaging Sci Dent. 2014 Sep:44(3):213-20. doi: 10.5624/isd.2014.44.3.213. Epub 2014 Sep 17.

 In difficult cases with alveolar lateral deficient bone, the diagram of the increase could be evaluated better from CBCT to avoid sub-estimation, that appears more often when is based just in panoramic radiographies.

Dagassan-Berndt DC1, Zitzmann NU2, Walter C2, Schulze RK3. Implant treatment plan-ning regarding augmentation procedures: panoramic radiographs vs. cone beam com-puted tomography images. Clin Oral Implants Res. 2016 Aug;27(8):1010-6. doi: 10.1111/ clr.12666. Epub 2015 Jul 30.

 AAOMR recommend that traversal image need to be used for evaluation of every dental im-plant places and CBCT is the method of the image selection for obtaining this information. Tyndall DA1, Price JB, Tetradis S, Ganz SD, Hildebolt C, Scarfe WC; American Academy of Oral and Maxillofacial Radiology. Position statement of the American Academy of Oral and Maxillofacial Radiology on selection criteria for the use of radiology in dental implan-tology with emphasis on cone beam computed tomography. Oral Surg Oral Med Oral Pathol Oral Radiol. 2012 Jun;113(6):817-26. doi: 10.1016/j.oooo.2012.03.005.

Use of the interface in zirconium restorations

Scientific evidence to recommend the use of the interface in zirconium restorations:

The maximum load capacity of a crown or framework made with a titanium plus zirconium interface is significantly higher [1] than when the crown or framework is made entirely of zirconium directly connected to the implant. The use of an intermediate metal component has a beneficial influence on the stability of the zirconium oxide abutments. [2] The failure mode in zirconium restorations depends on the support material and its design. [3] In zirconium restorations with intermediate abutment, initially only partial deformation of the components occurs and cracks occur prior to some fractures of the zirconium abutment. [4] The dimension of the interface (connector) on which to cement the zirconium prosthesis is clinically relevant. [5] The Interface reduces wear on the implant connection in cases of zirconium restorations [6] [7].

- [1] Kim JS1, Raigrodski AJ, Flinn BD, Rubenstein JE, Chung KH, Mancl LA. In vitro assess-ment of three types of zirconia implant abutments under static load. J Prosthet Dent. 2013 Apr;109(4):255-63. doi: 10.1016/S0022-3913(13)60054-2
- [5] Larsson C1. Zirconium dioxide based dental restorations.
 Studies on clinical performance and fracture behaviour. Swed
 Dent J Suppl. 2011;(213):9-84.
- [2] Truninger TC1, Stawarczyk B, Leutert CR, Sailer TR, Hämmerle CH, Sailer I. Bending mo-ments of zirconia and titanium abutments with internal and external implant-abutment con-nections after aging and chewing simulation. Clin Oral Implants Res. 2012 Jan;23(1):12-8. doi: 10.1111/j.1600-0501.2010.02141.x. Epub 2011 Mar 28.
- [3] Foong JK1, Judge RB, Palamara JE, Swain MV. Fracture resistance of titanium and zirconia abutments: an in vitro study. J Prosthet Dent. 2013 May;109(5):304-12. doi: 10.1016/S0022-3913(13)60306-6.
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 I. Bending moments of zirconia and titanium implant abutments supporting all-ceramic crowns after aging. Clin Oral Implants Res. 2014 Jan;25(1):74-81. doi: 10.1111/clr.12192. Epub 2013 Jun 4.

- [6] Stimmelmayr M1, Edelhoff D, Güth JF, Erdelt K, Happe A, Beuer F.
 Wear at the titanium-tita-nium and the titanium-zirconia implantabutment e: a comparative in vitro study. Dent Mater. 2012
 Dec;28(12):1215-20. doi: 10.1016/j.dental.2012.08.008. Epub 2012
 Sep 27.
- [7] Klotz MW1, Taylor TD, Goldberg AJ. Wear at the titaniumzirconia implant-abutment inter-face: a pilot study. Int J Oral Maxillofac Implants. 2011 Sep-Oct;26(5):970-5.



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