



Going to the **X**treme  
for primary stability and  
peri-implant health

# TSX™ Implants



 **ZimVie**



# Xcellence Engineered

## Next Generation Immediacy meets Clinical Confidence

TSX implants Xceed Xpectations in immediacy and leverage an Xtraordinary combination of clinically proven features.

### XTRACTION STABILITY

Deep apical threads and extraction protocol facilitate immediate placement (>35 Ncm in extraction testing in vitro)<sup>1\*</sup>

### PERI-IMPLANT HEALTH ZONE

Contemporary Hybrid Surface: Coronal 1.5 mm with proprietary dual acid-etched (DAE) texturing, attractive to bone, not to bacteria<sup>1-5, 12-14\*</sup>



### IMMEDIACY AS XPECTED

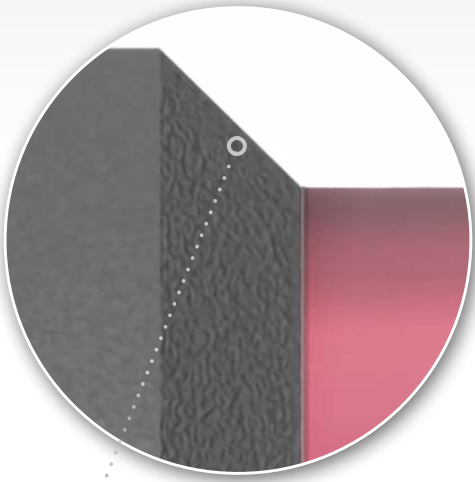
Progressive threads and taper follow the prepared osteotomy for placement predictability and high stability (>70 ISQ in vitro dense bone)<sup>1\*</sup>

### OSSEOINTEGRATION ZONE

Proprietary MTX™ Surface, with high osteoconductive potential and over two decades of clinical success<sup>1,7,8\*</sup>

## CRESTAL BONE MAINTENANCE

Platform switching offers a proven strategy to maintain crestal bone levels<sup>6</sup>



## FAMILIAR, TRUSTED PROTOCOLS

Compatible with existing TSV<sup>®</sup> and Eztetic<sup>®</sup> surgical and restorative components\*\*



## ENCODE<sup>®</sup> EMERGENCE EFFICIENCY

Tissue seal from placement to restoration, a strategy to lower peri-implantitis risk<sup>9</sup>

**New!**  
**5.4 mmD Implants**

\*Pre-clinical studies may not be indicative of clinical performance.

\*\* Not compatible with Zirconia Abutments.



# Xceptional Immediacy

## Taking Xtraction Site Stability to the Next Level

TSX Implants offer Xtra apical engagement, making them a great choice for immediate extraction sites.<sup>1\*</sup>

### Xtraordinary Bone Engagement

#### Achieves High Apical Stability

The TSX Implant achieves high apical stability via Initial Bone-to-Implant Contact (IBIC), the percentage of bone in contact with the implant immediately at implant placement. IBIC is strongly correlated to implant primary stability.<sup>10</sup>

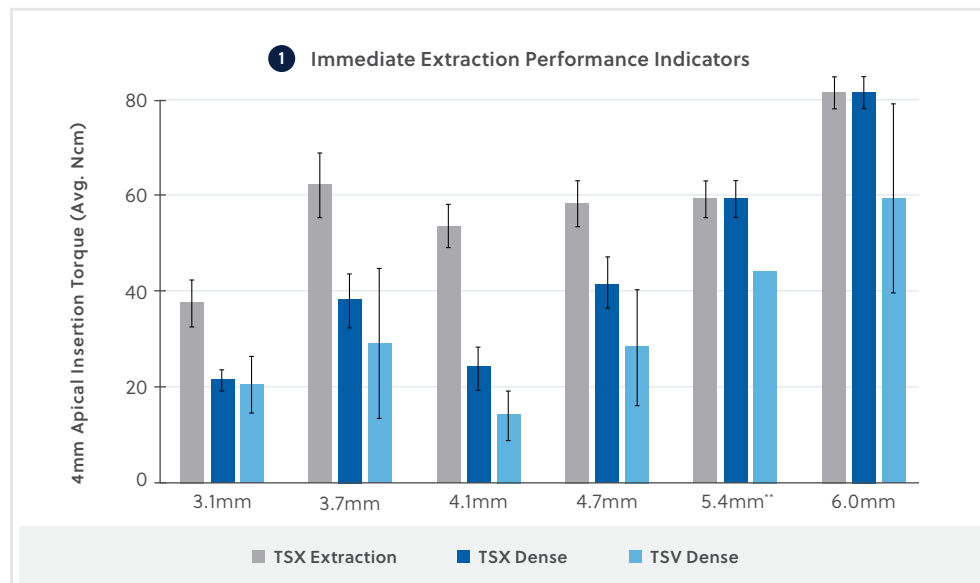
#### 1 TSX APICAL STABILITY RESULTS<sup>1\*</sup>

- > 35 Ncm apical torque in TSX extraction protocol
- 25% more implant surface area in contact with bone upon insertion than the TSV Implant (in TSX extraction protocol)

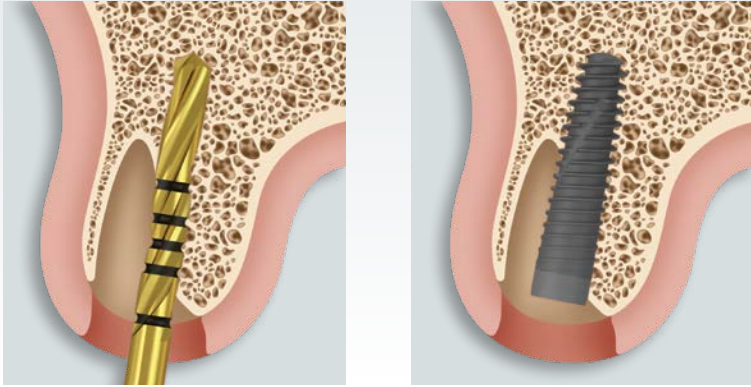
(Data from in vitro testing engaging only the apical 4mm of the implant; untapped averages).



APICAL ENGAGEMENT:  
4.7 mmD x 11.5 mmD



\*\*TSV 5.4 mmD dense bone apical torque is theoretical and extrapolated from other TSV data points.



## Placement Predictability

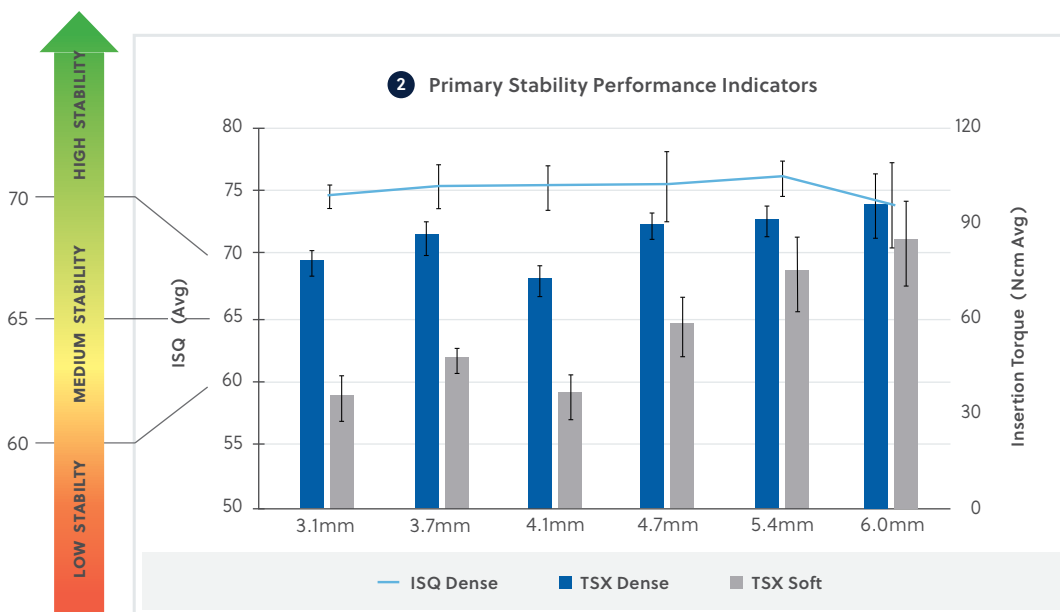
### Designed to follow the drilled osteotomy

Unlike some very aggressive implants that can track off the desired course during placement, the TSX Implant is not designed to change direction during seating, aiding in placement predictability.

#### 2 TSX PRIMARY STABILITY RESULTS<sup>1\*</sup>

- > 70 Implant Stability Quotient (ISQ) in dense bone
- > 70 Ncm insertion torque in dense bone protocol
- > 60 Ncm insertion torque in soft bone protocol

(Data from in vitro testing in traditional osteotomy; untapped averages).



<sup>1</sup>Pre-clinical studies may not be indicative of clinical performance.  
The Osstell ISQ Scale is a summary of scientific data and not an official recommendation by Osstell or ZimVie.



# Xciting Advantages

## Supporting Peri-implant Health and Crestal Bone Maintenance

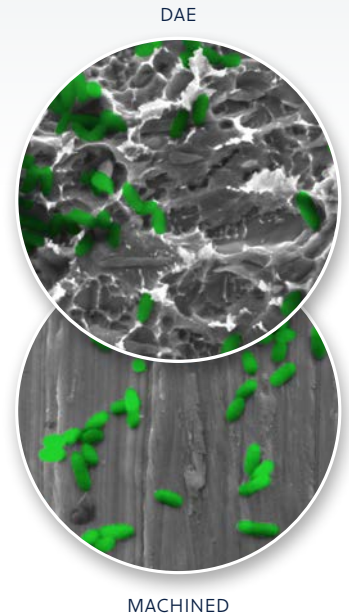
### Peri-Implant Defense

The TSX Implant leverages long-term evidence that the proprietary coronal dual acid-etched (DAE) surface Xcels in peri-implant health and crestal bone maintenance.<sup>3</sup>

### Lower Biofilm Potential

Bacterial colonization promotes biofilm formation and peri-implantitis risk.<sup>11</sup> Minimally rough surfaces like the coronal DAE Surface exhibit similar bacterial adhesion profiles to smooth machined surfaces that are considerably lower than other rougher surfaces tested.<sup>1,2,12-14\*</sup>

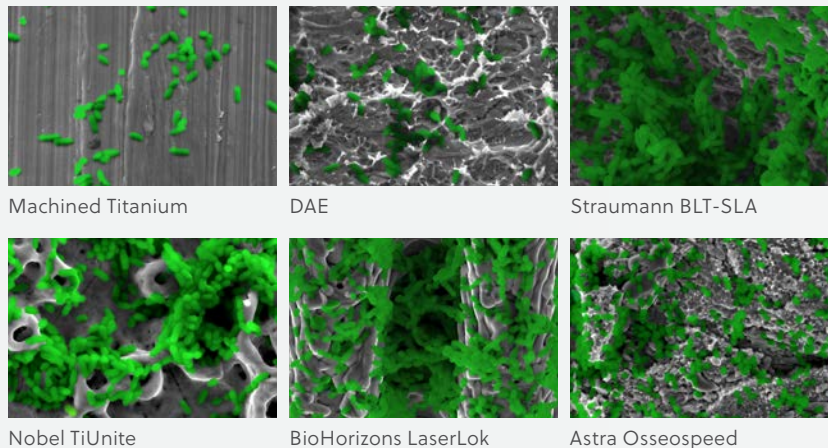
Therefore, the DAE surface may lower the risk of biofilm formation and peri-implantitis<sup>11</sup> while offering Xcellent osseointegration potential to maintain crestal bone.<sup>3-5</sup>



DAE Surface and machined titanium present similar bacterial adhesion profiles.

#### Commercially Available Coronal Surfaces

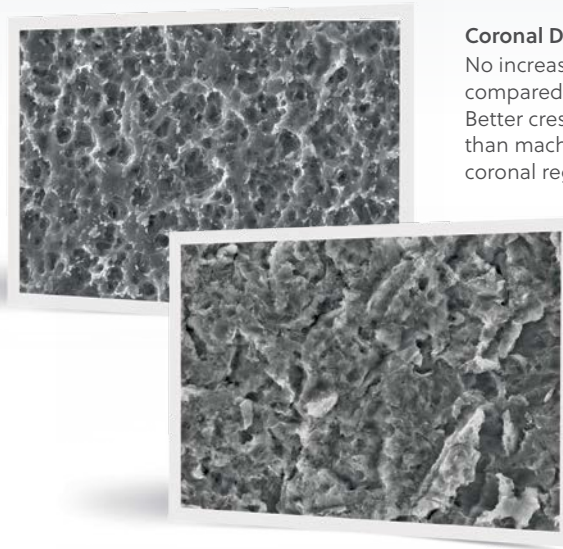
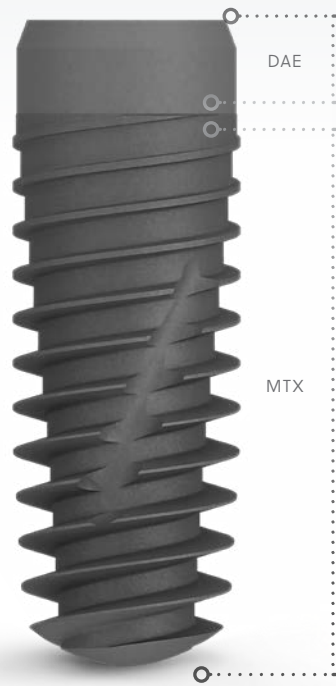
Bacterial adhesion to rough surfaces shown to be significantly higher than DAE and machined titanium.<sup>1,2\*</sup>



Note: Adhered bacteria colored green; gray areas are implant surfaces.

## Contemporary Hybrid Surface

The TSX Implant leverages decades of clinical history in its combination of surface technologies shown to balance peri-implant needs in the coronal and sub-coronal regions.<sup>1-5, 12-14\*</sup>



### Coronal DAE Surface

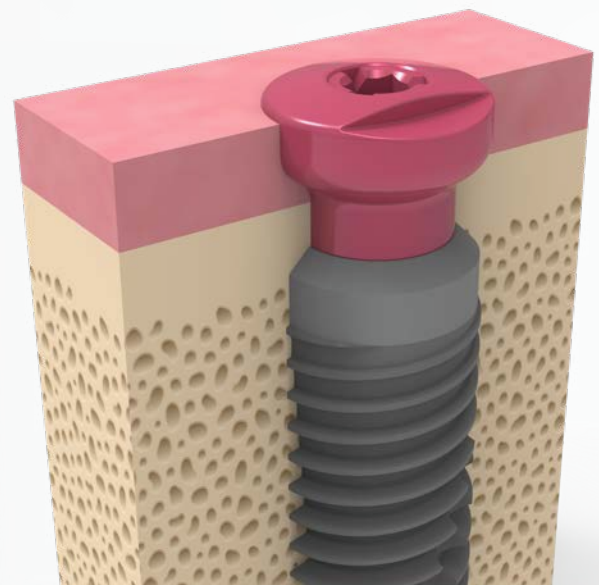
No increased risk of peri-implantitis compared to machined titanium. Better crestal bone maintenance than machined titanium in the coronal region.<sup>1-5, 12-14</sup>

### MTX Surface

High osteoconductive potential and over two decades of clinical success.<sup>1, 7, 8</sup>

## Maintain the Mucousal Barrier

The Encode Emergence 3-in-1 Healing Abutment, Impression Coping and Scanbody preserves the peri-abutment mucosal interface from initial placement until the final restoration, an efficient method that may lower peri-implantitis risk.<sup>9</sup>



\*Pre-clinical studies may not be indicative of clinical performance.



# Xcellerated Workflow

## Digital Dentistry Solutions

Our suite of digitally integrated workflows offers diverse solutions for a precisely positioned and aesthetically restored TSX Implant. Efficient and versatile workflows provide an improved patient experience, even in demanding clinical situations, and immediate protocols.



### Scan

Use an iTero Element intraoral scanner to improve the patient experience whenever an impression is taken.



### Plan

The RealGUIDE Software Suite offers everything you need for precise planning and predictable placement of the TSX Implant.



### Guide

Implant Concierge is a web-based platform that acts as your Virtual Treatment Plan Coordinator™ – the one-stop shop for your guided surgery needs.





- Choose your preferred path – from TSX Implant surgical planning to fully guided placement, and restorative design.
- Do the planning and designing yourself or outsource to your chosen lab or one of ZimVie’s skilled partners.
- Xplore all the customized options along the way to a healthy patient smile!



### Place

Take the complexity and inaccuracies out of guided surgery by using the Z3D Guided Surgical Kit.



### Heal and Scan

Naturally shape the soft tissue and efficiently process the final restoration with the easy-to-use Encode Emergence Impression System. Proven Encode technology, contemporary emergence profile designs, intuitive codes and pink matte appearance.



### Restore

Select between CAD/CAM abutments and Flex and Express Ti-bases for the final custom restoration, designed to match the patient’s anatomy, producing a natural emergence profile through the soft tissue.



### Smile!

Digitally Mastered TSX Smiles!



# Xtensive Options

## Efficient and Flexible Solutions Compatible with TSX

### Familiar protocols from a trusted leader in the dental implant industry

ZimVie provides a comprehensive system of surgical, restorative and digital dental solutions.

The innovative TSX Implant System includes the tools you need to master immediate implants with greater efficiency, and more predictability – to aid in successful patient outcomes.

DRÍVA® GOLD SERIES  
DRILLS



HIGH TORQUE-INDICATING  
RATCHET WRENCH



### Surgical Compatibility

The TSX Implant is compatible with TSV and Eztetic surgical instrumentation, soft and dense bone protocols and the Dríva Gold Series Drills.

### Dynamic Torque Feedback

The High Torque-Indicating Ratchet Wrench (ZTIRW) indicates insertion torque from 50 to 90 Ncm and may be utilized without pulling on the torque-indicating arm up to 150 Ncm.

**TSX IMPLANTS**  
Platform Switching



**New!**  
5.4 mmD implants

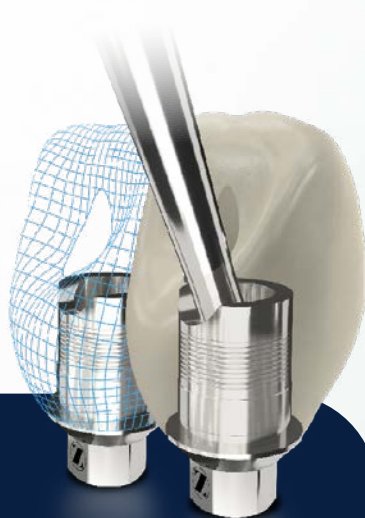


**Alignment Pin**

- Color-coded alignment pin is included with the TSX Implant.
- May be optionally attached after insertion to aid in guiding the parallelism of multiple implants.
- TSX Implant is not packaged with a fixture mount to facilitate fully-guided placement.



**FLEX AND EXPRESS  
TI-BASE ABUTMENTS**



**Restorative Versatility**

The TSX Implant is compatible with a wide range of TSV® and Eztetic stock and digital restorative components, including Flex and Express Abutments.



**ALIGNMENT PINS COLOR-CODED  
BY RESTORATIVE PLATFORM**



# Xperience TSX

## For Xcellent Results

### Ordering information

#### TSX Dental Implants

Includes cover screw and optional alignment pin to aid in guiding parallelism.

Implant Diameter	Implant Platform	Internal Hex Connection	Implant Length				
			8 mmL	10 mmL	11.5 mmL	13 mmL	16 mmL
3.1 mmD	2.9 mmD	2.1 mmD*	TSX31B8	TSX31B10	TSX31B11	TSX31B13	TSX31B16
3.7 mmD	3.5 mmD	2.5 mmD	TSX37B8	TSX37B10	TSX37B11	TSX37B13	TSX37B16
4.1 mmD	3.5 mmD	2.5 mmD	TSX41B8	TSX41B10	TSX41B11	TSX41B13	TSX41B16
4.7 mmD	3.5 mmD	2.5 mmD	TSX47B8	TSX47B10	TSX47B11	TSX47B13	TSX47B16
5.4 mmD	4.5 mmD	2.5 mmD	TSX54B8	TSX54B10	TSX54B11	TSX54B13	TSX54B16
6.0 mmD	4.5 mmD	2.5 mmD	TSX6B8	TSX6B10	TSX6B11	TSX6B13	TSX6B16

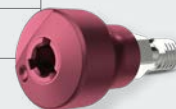


**Note:** The 4.7 mmD implant features a green color-coded 3.5 mmD platform, unlike TSV Implants. Likewise, the 6.0 mmD implant features a purple color-coded 4.5 mmD platform.

\*3.1 mmD Implant Conical Hex Dual Friction-Fit™ Connection compatible with 2.9 mmD NP (Eztetic) restorative components.

#### Encode Emergence Healing Abutments for TSX Implants

Implant Platform	Emergence Profile	Cuff Height		
		3 mm	5 mm	7 mm
3.5 mmD	3.8 mmD	TEEHA333	TEEHA335	TEEHA337
3.5 mmD	5.0 mmD	TEEHA353	TEEHA355	TEEHA357
3.5 mmD	6.5 mmD	TEEHA363	TEEHA365	TEEHA367
4.5 mmD	4.5 mmD	TEEHA443	TEEHA445	TEEHA447
4.5 mmD	5.5 mmD	TEEHA453	TEEHA455	TEEHA457
4.5 mmD	6.5 mmD	TEEHA463	TEEHA465	TEEHA467



## RealGUIDE Software and Z3D Guided Surgical Kit

### Placing implants in the intended position becomes easy.

The RealGUIDE Software Suite, combined with the fully-guided Z3D Guided Surgery Kit provide you with precise implant planning, design and production of a user-friendly surgical guide, providing a secure, accurate and minimally invasive guided surgery.



For information on RealGUIDE Software and RealGUIDE Z3D fully-guided surgery solutions for TSX Implants, please visit RealGUIDE Z3D Kit at [ZimVie.com](http://ZimVie.com).

## Surgical Kits Compatible with TSX Implants

Part Number	Compatible Surgical Kits
TSVKITG	Tapered Screw-Vent Surgical Kit, Complete (3.7 to 6.0 mmD)
STRKITG	Tapered Screw-Vent Starter Kit (3.7 and 4.7mmD only)
TSVTRAYDG	Surgical Tray and Driva Gold Series Drills only (3.7 to 6.0mmD Drills, no Tools)
NPMODG	NP Kit Module with Gold Series Drills and Tools (3.1mmD only)
DSKIT	Drill Stop Kit
TSV51D44SG*	5.1/4.4mmD Driva Gold Series Step Drill, 16mmL
TSV51D44G*	5.1/4.4mmD Driva Gold Series Step Drill, 22mmL
3DM0070ZUS	RealGUIDE Z3D Guided Surgery Kit

\*Final drill for 5.4 mmD Implant, sold separately, not in surgical kits. TSV51DN/TSV51DSN are alternative 5.4/4.4 step drills that may be utilized as final drills for the 5.4mmD TSX implant, also sold separately.



## References

1. Data on file.
2. Xuesong Wang, Olga Sanchez, Elnaz Ajami, Hai Bo Wen. Impact of Implant Surface Roughness on Pathogenic Bacterial Adhesion. Abstract N° EAO-266. European Association for Osseointegration, Geneva 2022. Accepted for publication at COIR Special Issue.
3. Zetterqvist L, Feldman S, Rotter B, et al. A prospective, multicenter, randomized controlled 5-year study of hybrid and fully etched implants for the incidence of peri-implantitis. *J Periodontol*. 2010; 81:493-501.
4. Mendes VC, Moineddin R, Davies JE. Discrete calcium phosphate nanocrystalline deposition enhances osteoconduction on titanium-based implant surfaces. *J Biomed Mater Res A*. 2009; 90(2):577-85.
5. Davies JE, Ajami E, Moineddin R, Mendes VC. The roles of different scale ranges of surface implant topography on the stability of the bone/implant interface. *Biomaterials* 2013; 34:3535-35456
6. Lazzara RJ, Porter SS. Platform switching: a new concept in implant dentistry for controlling post-restorative crestal bone levels. *Int J Periodontics Restorative Dent* 2006; 26(1):9-17.
7. Trisi P, Marcato C, Todisco M. Bone-to-implant apposition with machined and MTX microtextured implant surfaces in human sinus grafts. *Int J Periodontics Restorative Dent* 2003; 23(5): 427-437.
8. Todisco M, Trisi P. Histomorphometric evaluation of six dental implant surfaces after early loading in augmented human sinuses. *J Oral Implantol*. 2006;32(4):153-166.
9. Abrahamsson I, Berglundh T, Lindhe J. The mucosal barrier following abutment dis/reconnection. An experimental study in dogs. *J Clin Periodontal* 1997 Aug; 24(8):568-72.
10. Huang HL, Tsai MT, Su KC, Li YF, Hsu JT, Chang CH, Fuh LJ, Wu AY. Relation between initial implant stability quotient and bone-implant contact percentage: an in vitro model study. *Oral Surg Oral Med Oral Pathol Oral Radiol*. 2013 Nov;116(5):e356-61.
11. Subramani et al. Biofilm on dental implants: a review of the literature. *Int J Oral Maxillofac Implants* 2009; 24(4):616-26.
12. Park SJ, Sanchez O, Ajami E, Wen HB. Bacterial Adhesion to Different Dental Implant Collar Surfaces: An in-vitro comparative study. 34th Annual Meeting Academy of Osseointegration, Washington, DC, March 2019.
13. Bermejo P, Sanchez MC, Llama-Palacios A, Figuero E, Herrera D, Sanz Alanso M. Biofilm formation on dental implants with different surface micro-topography: An in vitro study. *Clin Oral Impl Res* 2019; 30:725-734.
14. Albrektsson T, Wennerberg A. Oral Implant Surfaces: Part 1-Review Focusing on Topographic and Chemical Properties of Different Surfaces and In Vivo Responses to Them. *Int J Prosthodont* 2004; 17(5):536-543.



Contact us at 1-800-342-5454  
or visit [ZimVie.com](http://ZimVie.com)

**ZimVie Dental**  
4555 Riverside Drive  
Palm Beach Gardens, FL 33410  
Phone: +1-561-776-6700  
Fax: +1-561-776-1272



Unless otherwise indicated, as referenced herein, all trademarks and intellectual property rights are the property of ZimVie Inc. or an affiliate; and all products are manufactured by one or more of the dental subsidiaries of ZimVie Inc. (Biomet 3i, LLC, Zimmer Dental, Inc., etc.) and marketed and distributed by ZimVie Dental and its authorized marketing partners. ZimVie is an authorized distributor of iTero Products which are manufactured by Align Technology, Inc. Invisalign, iTero, iTero Element, the iTero logo, among others, are the trademarks and/or service marks of Align Technology, Inc. or one of its subsidiaries or affiliated companies and may be registered in the U.S. and/ or other countries. Z-TIRW High Torque Indicating Ratchet Wrench is manufactured by Elos Medtech Pinol A/S. Straumann BLT-SLA, Nobel TiUnite, BioHorizons LaserLok and Astra Osseospeed are trademarks of their respective owners. Ostell is a registered trademark of W&H Dentalwerk Bürmoos GmbH. For additional product information, please refer to the individual product labeling or instructions for use. Product clearance and availability may be limited to certain countries/regions. This material is intended for clinicians only and does not comprise medical advice or recommendations. Distribution to any other recipient is prohibited. This material may not be copied or reprinted without the express written consent of ZimVie. ZV0186 REV B 01/23 ©2023 ZimVie. All rights reserved.

