







# SCIENCE MEETS INNOVATION

We continue to build on our strong heritage as a contemporary implant system backed by science and innovation. Paltop offers six innovative implants with an advanced biological design, including state-of-the-art surgical and restorative components. This complete implant system with two restorative connections, both engineered for marginal bone preservation and restorative flexibility, can be placed utilizing the Premium Surgical Kit. The hallmark of our restorative components is a unique concave abutment profile, which helps deliver long-term aesthetics. Paltop leads with innovation through unique digital workflows and individual implant solutions, such as the Single-Unit Abutment System (SUA) and the Angulated Corrective System (ACS) designed to deliver excellent treatment outcomes and better patient care.







### **PALTOP IMPLANT**

## STANDARDS

### **PLATFORM SWITCHING**

The platform switch maintains crestal bone and increases soft tissue volume around the implant platform.<sup>1,2,3</sup>

### CYLINDRICAL CORE

Cylindrical shape promotes long-term osseointegration by enlarging surface area and bone-to-implant contact.

### **INITIAL STABILITY**

Aggressive threads in the apical portion enhance primary stability for indications, such as immediate extraction sockets, poor bone quality, and immediate loading.

### **BONE MAINTENANCE**

Microthreads provide even load distribution, stabilizing, and maintaining crestal bone levels. 4,5,6

### KLEAN

Sandblasted acid-etched surface, with an extensive multi-stage cleaning process, utilizes ultra-pure water (UPW) which removes undesired residues, providing a clean surface and maintaining an intact oxide layer.<sup>7,8,9</sup>

### **TAPERED APEX**

The apically tapered implant design allows for under-preparation of the osteotomy and supports primary stability in soft bone.





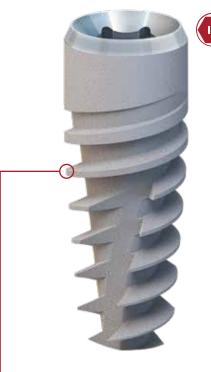
### THE PALTOP

### DIFFERENCE









### AGGRESSIVE THREADS

Double-lead thread design with an optimal 1.2 mm thread pitch for fast implant insertion. Wide-to-narrow thread width from coronal to apical to increase bone-to-implant contact and initial primary stability.

### **CUTTING APEX**

Allows for more aggressive bone engagement for indications such as immediate extraction sockets, poor bone quality, and immediate loading.<sup>10,11</sup>





#### MACHINED COLLAR

1.5 mm machined collar for different clinical indications and surgical flexibility.

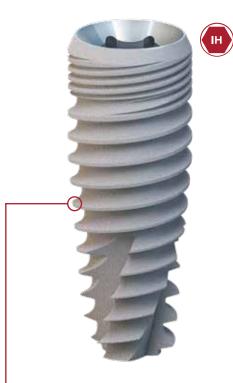
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Double-lead thread design with an optimal 1.2 mm thread pitch for fast implant insertion. Wide-to-narrow thread width from coronal to apical to increase bone-to-implant contact and initial primary stability.

#### **CUTTING APEX**

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#### **CUTTING THREADS**

Double-lead thread with a reverse buttress profile with optimal 0.8 mm thread pitch for fast implant insertion with better stability.

#### **ACTIVE APEX**

Enhanced cutting threads enable directional adjustments, providing optimal restorative orientation.





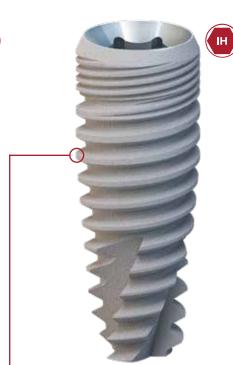
#### **PASSIVE APEX**

Passive apex enables safe implant insertion without damage to surrounding bone.

### **V-THREAD**

One of the longest documented designs in scientific literature with more than 45 years of evidence.<sup>15,16</sup>





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#### **CONICAL CONNECTION**

Tightly sealed conical interface with a deep internal hex connection offers high mechanical strength and platform switching to optimize bone preservation and soft tissue.<sup>12,13,14</sup>

#### **V-THREAD**

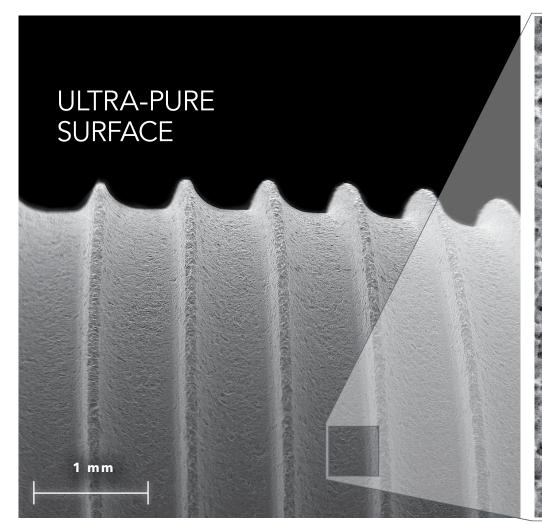
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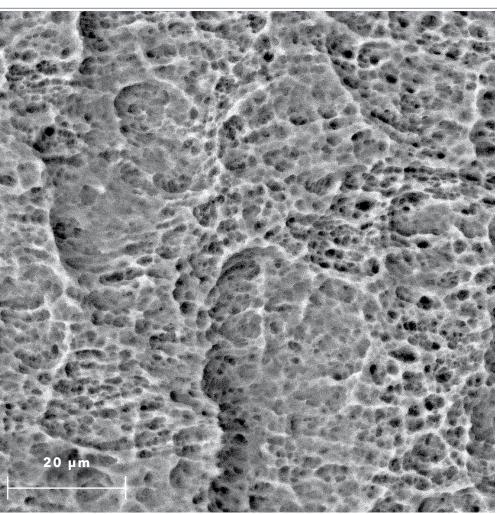
### **ACTIVE APEX**

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### FROM BDIZ EDI JOURNAL REPORT: SEM SURFACE ANALYSES OF 120 STERILE-PACKED IMPLANTS

"PALTOP has decided to consistently clean their products with ultra-pure water (UPW), which is rather expensive to produce, compared to regular demineralized water, and is otherwise mostly employed by the semiconductor industry. XPS analyses of the implant surface thus cleaned show no traces of sulphur, silicon, zinc or chlorine, inorganic impurities frequently found in the XPS analyses of the sandblasted and acid-etched surfaces of implants by other manufacturers. The corresponding EDX analysis shows only the typical elements for grade five titanium..."



The proprietary K-LEAN™ surface is created by two sequential stages: sandblasting, aimed at creating a porous surface topography, followed by acid etching, intended to generate micro-roughened surface structure. The surface treatment is completed by removing contaminants using ultra-pure water (UPW), a unique process acquired from the semiconductor industry.<sup>7,8,9</sup>



## STERILE R LEADING IN PATIENT SAFETY

Paltop delivers sterile components throughout all treatment phases. The innovative implant packaging utilizes a titanium sleeve, designed to prevent potential contamination of the ultra-pure K-LEAN™ surface.

ADVANCED BIOLOGICAL DESIGN

### ADVANCED BIOLOGICAL DESIGN

### **ADVANCED**

# BIOLOGICAL DESIGN

# ENGINEERED FOR MARGINAL BONE PRESERVATION

### **LONG-TERM AESTHETICS**

The sequence of matching restorative components contributes to the maintenance of soft-tissue volume and predictable bone preservation.<sup>17</sup>

### **CONCAVE PROFILE**

The prosthetically driven concave design increases soft-tissue volume, improving blood supply supporting an optimal emergence profile.<sup>17,18,19,20</sup>

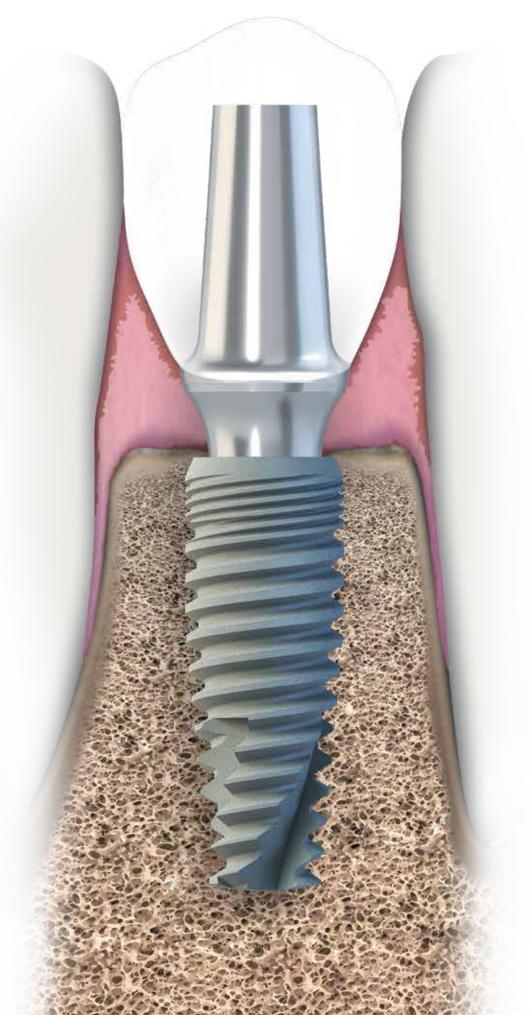
### **MICROTHREADS**

Provides even load distribution, stabilizes and aids in maintaining crestal bone levels.<sup>4,5,6</sup>

### KLEAN

### **ULTRA-PURE SURFACE**

Clean and free from bacteria and chemical residue, it maintains an intact oxide layer.<sup>7,8,9</sup>

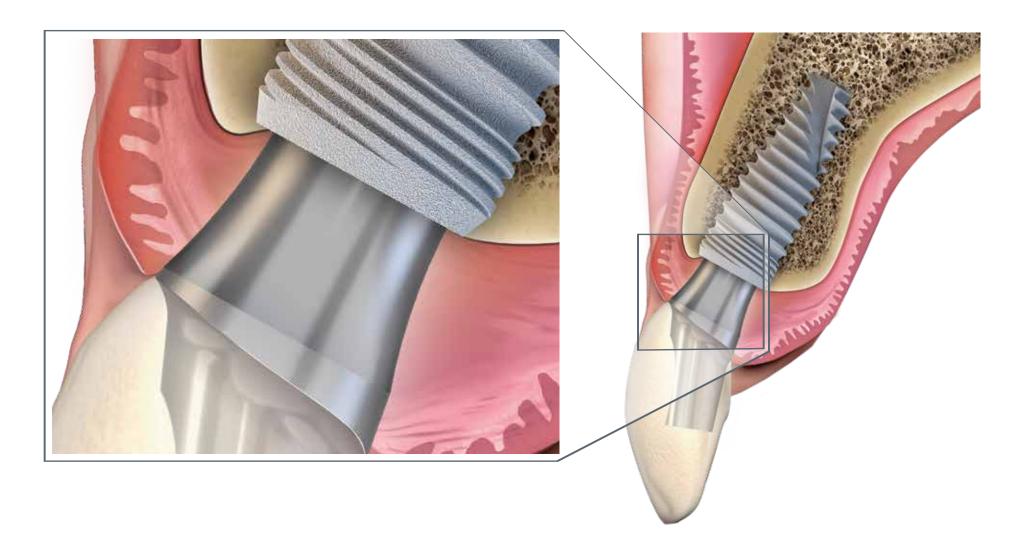






### **ENGINEERED**

## AESTHETICS



### ENHANCED GINGIVAL HEALING

### **CONCAVE THROUGHOUT THE TREATMENT**

The Paltop implant system is a leader of innovative prosthetic solutions, offering prefabricated prosthetic components suitable for all restorative indications. The concave design creates an optimal emergence profile by forming a dense layer of soft tissue. The newly formed concave tissue architecture is maintained throughout the entire treatment.







### **PROVEN**

### INTERNALHEX

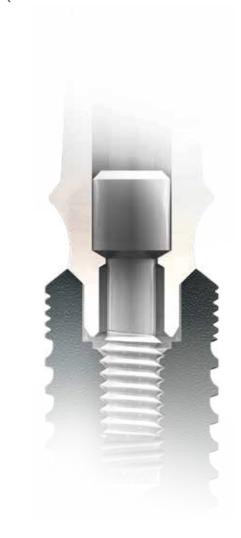
### RESTORATIVE FLEXIBILITY

### PROVEN CONNECTION

The internal hex connection is proven with over 40 years of long-term data supporting predictable aesthetic outcomes. The ease of use in abutment placement allows for a positive clinical experience. The deep internal hex connection provides abutment stability and a versatile prosthetic connection.

### SIMPLIFIED INVENTORY

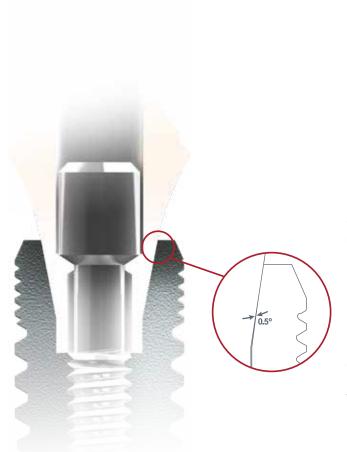
The narrow, standard and wide platforms for all Paltop internal hex implants offer restorative flexibility with reduced inventory. The standard internal hex platform covers 3.75 mm, 4.2 mm, and 5.0 mm implant diameters.



# NP SP-WP NP SP WP Ø 3.25 mm Ø 3.75 mm Ø 4.2 mm Ø 5.0 mm Z.1 mm 2.5 mm

### **SECURE**

### CONICAL CONNECTION



### ONE CONNECTION

### SIMPLIFIED WORKFLOW

One platform across all implant diameters simplifies the restorative workflow, with one prosthetic connection providing a variety of restorative options. This drives efficiency and reduces treatment complexity.

### PRECISION MILLED

Implant and abutments are produced to an accuracy of 0.5° to achieve excellent retention. The tighter the tolerance, the greater the mechanical retention for eliminating micromovement and providing a clinical seal between the implant and the abutment. 12,13,14







### **ONE KIT**

# FOR ALL PALTOP IMPLANTS

The Premium Surgical Kit is used for all Paltop implant designs. Suitable for all implant diameters: 3.25 mm, 3.75 mm, 4.2 mm, 5.0 mm and 6.0 mm.

### **INCREASED DRILLING EFFICIENCY**

The drills are manufactured by a leading provider of the highest-quality rotary instruments that perform better, last longer, and are color-coded according to diameter.

### **IMPROVED USER EXPERIENCE**

State-of-the-art bending beam torque wrench now included.

### IMPROVED CLEANING AND DISINFECTION

One-piece grommetless technology facilitates improved cleaning and disinfection of the surgical kit during the sterilization process (approved for use in surgical washer-disinfectors). For full cleaning and sterilization guidelines, please refer to both the surgical kit and Paltop instructions for use.

Disclaimer: 3.0 mm implant and components are not regulatory cleared/released for sale in the North America market at time of print.







### **FULLY GUIDED**

### SURGICAL KIT



# VIRTUAL PLANNING FOR THE DESIRED AESTHETIC RESULT

The state-of-the-art Fully Guided Surgical Kit eliminates cumbersome drill guide keys/ spoons for placing all implants from 3.25 mm to 5.0 mm in diameter. The Fully Guided Surgical Kit includes a handpiece specifically designed for the innovative Digital Guidance Sleeve (DGS). The DGS provides continuous direct irrigation to each drill and protects the drilling flutes from contacting the guide sleeves in order to avoid metal shavings from entering the osteotomy.



### **ANGULATED CORRECTIVE SYSTEM**

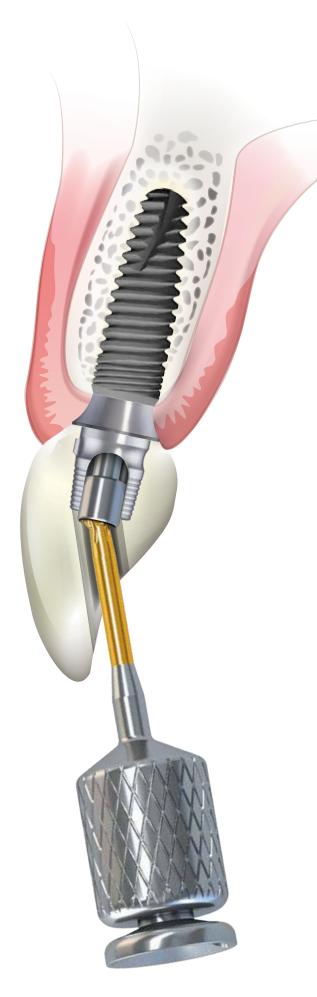


### **INCREASED RESTORATIVE FLEXIBILITY**

ACS abutments are for precisionmanufactured CAD/CAM screw-retained restorations where angulation of the screw access hole is required for improved aesthetics and/or function.

### 20° OF AESTHETICS

The ACS system permits angulation of the screw access hole up to 20 degrees. This is achieved with the aid of a specially designed abutment screw and screwdriver (hand or ratchet) to facilitate precise tightening of the abutment screw at the required torque.



### **SINGLE-UNIT ABUTMENT SYSTEM**

### **SOFT-TISSUE PRESERVATION**

The Single-Unit Abutment (SUA) is designed for single-tooth restorations placed at time of surgery. The concave profile of the SUA enables increased volume of soft tissue, facilitating an uniterrupted seal. The SUA reduces soft-tissue disruption that may cause apical migration of epithelial cells, potentially creating pockets of unstable soft tissue. The concept of a final abutment at time of surgery helps promotoes bone maintenance and greater aesthetic outcomes.

### **ELEVATED RESTORATION**

The one-piece Single-Unit Abutment allows for platform switching and a tissue-level restoration, maintaining long-term soft-tissue attachment.









Conical Connection



Internal Hex Connnection

### **IMPLANT**

### SPECIFICATIONS

8.0 mm 10.0 mm

11.5 mm 13.0 mm 16.0 mm





	NP		SP	
IH	Ø 3.25 mm	Ø 3.75 mm	Ø 4.2 mm	Ø 5.0 mm
8.0 mm	_	20-70017	20-70006	20-70012
10.0 mm	20-70018	20-70001	20-70007	20-70013
11.5 mm	20-70019	20-70002	20-70008	20-70014
13.0 mm	20-70020	20-70003	20-70009	20-70015
16.0 mm	20-70021	20-70004	20-70010	20-70016





NP	SP		WP	
Ø 3. 25 mm	Ø 3.75 mm	Ø 4.2 mm	Ø 5.0 mm	Ø 6.0 mm
_	29-70017	29-70006	29-70012	29-70023
29-70018	29-70001	29-70007	29-70013	29-70024
29-70019	29-70002	29-70008	29-70014	29-70025
29-70020	29-70003	29-70009	29-70015	29-70026
29-70021	29-70004	29-70010	29-70016	29-70027
	Ø 3. 25 mm	Ø 3. 25 mm Ø 3.75 mm  — 29-70017 29-70018 29-70001 29-70019 29-70002 29-70020 29-70003	Ø 3. 25 mm Ø 3.75 mm Ø 4.2 mm  — 29-70017 29-70006 29-70018 29-70001 29-70007 29-70019 29-70002 29-70008 29-70020 29-70003 29-70009	Ø 3. 25 mm Ø 3.75 mm Ø 4.2 mm Ø 5.0 mm  — 29-70017 29-70006 29-70012 29-70018 29-70001 29-70007 29-70013 29-70019 29-70002 29-70008 29-70014 29-70020 29-70003 29-70009 29-70015





	NP	SP			WP
	Ø 3.25 mm	Ø 3.75 mm	Ø 4.2 mm	∅ 5.0 mm	Ø 6.0 mm
,	_	20-70017P	20-70006P	20-70012P	20-70023P
	20-70018P	20-70001P	20-70007P	20-70013P	20-70024P
	20-70019P	20-70002P	20-70008P	20-70014P	20-70025P
	20-70020P	20-70003P	20-70009P	20-70015P	20-70026P
	20-70021P	20-70004P	20-70010P	20-70016P	20-70027P
-1					







8.0 mm

10.0 mm

11.5 mm

13.0 mm

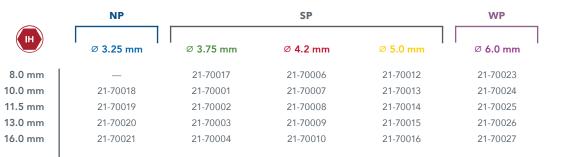
16.0 mm

8.0 mm
10.0 mm
11.5 mm
13.0 mm
16.0 mm

NP		SP		
Ø 3. 25 mm	∅ 3.75 mm	Ø 4.2 mm	Ø 5.0 mm	Ø 6.0 mm
_	29-70017TC	29-70006TC	29-70012TC	29-70023TC
29-70018TC	29-70001TC	29-70007TC	29-70013TC	29-70024TC
29-70019TC	29-70002TC	29-70008TC	29-70014TC	29-70025TC
29-70020TC	29-70003TC	29-70009TC	29-70015TC	29-70026TC
29-70021TC	29-70004TC	29-70010TC	29-70016TC	29-70027TC

### Dynamic











8.0 mm	
10.0 mm	
11.5 mm	
13.0 mm	
16.0 mm	

	СР		
Ø 3. 25 mm	Ø 3.75 mm	Ø 4.2 mm	Ø 5.0 mm
_	22-70017	22-70006	22-70012
22-70018	22-70001	22-70007	22-70013
22-70019	22-70002	22-70008	22-70014
22-70020	22-70003	22-70009	22-70015
22-70021	22-70004	22-70010	22-70016





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#### REFERENCES

- Al-Nsour MM, Hsun-Liang C, Wang HL. Effect of the Platform-Switching Technique on Preservation of Peri-implant Marginal Bone: A Systematic Review. The International Journal of Oral & Maxillofacial Implants Volume 27, Number 2012
- Cappiello M, Luongo R, Di Iorio D, Bugea C, Cocchetto R, Celletti R. Evaluation of peri-implant bone loss around platform-switched implants. Int J Periodontics Restorative Dent. 2008 Aug;28(4):347-55.
- Prosper L, Redaelli S, Pasi M, Zarone F, Radaelli G, Gherlone EF. A randomized prospective multicenter trial evaluati platform-switching technique for the prevention of post-restorative crestal bone loss. Int J Oral Maxillofac Implants Max Apr;24(2):290-208
- Thobity A, Kutkut A, Almas K. Microthreaded Implants and Crestal Bone Loss: A Systematic Review. J Oral Impla 2017 Apr;43(2):157-166. doi: 10.1563/aaid-joi-D-16-00170. Epub 2016 Nov 21.
- A Bratu E , Tandlich M, Shapira L. A rough surface implant neck with Microthreads reduces the amount of marginal l loss: a prospective clinical study. Clin. Oral Implants Res. 2009 Aug;20(8):827-32. doi: 10.1111/j.1600-0501.2009.017.
- Young-Kyu S , Chong-Hyun H, Seong-Joo H, Sunjai K, Heoung-Jae C. Radiographic evaluation of marginal bone lew around implants with different neck designs after 1 year. Int J. Oral Maxillofac Implants. Sep-Oct 2006;21(5):789-94.
- Klein M, Tarnow D, Lehrfield L. Marginal Bone Changes on Ultraclean, Micro-Threaded Platform-Switched Implants lowing Restoration: 1- to 4-Year Data. Compendium of Continuin Education in Dentistry. Article Vol. 41 No. 4. 2020.
- Singh Dhaliwal J, Rani Nakka David S, Ramizah Zulhilmi N, Kaur Sodhi Dhaliwal S, Knights J, Ferreira de Albuquerqu
  Junior R. Contamination of titanium dental implants: a narrative review. SN Applied Sciences volume 2, Article numl
  1011, 2020.
- Duddeck D, Maghaireh H, Faber FJ and Neugebauser J. SEM surface analyses of 120 sterile-packed implants. EDI J. 2014; 64-75.
- Sun-Young Lee, Sung-Jun Kim, Hyun-Wook An, Hyun-Seung Kim, Dong-Guk Ha, Kyung-Ho Ryo, and Kwang-Bum Park. The effect of thread depth on the mechanical properties of the dental implant. J Adv Prosthodont. 2015 Apr; 115–121.
- 11. Heba Abuhussein, Girogio Pagni, Alberto Rebaudi, Hom-Lay Wang. The effect of thread patter upon implant osseointegration. Clin Oral Implants Res. 2010 Feb;21(2):129-36.
- 12. M. Schmitt C, Nogueira Filho G, C. Tenenbaum H, Yuan Lai J, Brito C, Döring H, Nonhoff J. Performance of conical abutment (morse Taper) connection implants: A Systematic review. J Biomed Mater Res Part A: 102A: 552–574, 201-
- 13. Sang-Woon L, Min-Sang C, Ji-Hye L, Lee-Ra C, Chan-Jin P. Joint stability of internal conical connection abutments with or without hexagon indexes: an in vitro study. Journal of Dental Rehabilitation and Applied Science, 10.14368/jdras.2020.36.2.95, 36, 2, 95-103, 2020.
- Tsuruta K, Ayukawa Y, Matsuzaki T, Kihara M, Koyano K. The influence of implant-abutment connection on the screw loosening and microleakage. Int. J. Implant Dent. 2018, 4, 1–6.
- Yenumula J B Manikyamba, Suresh Sajjan MC, Rama Raju A.V., Bheemalingeshwara Rao Chandrasekharan Nair K. In thread designs: An overview. TPDI. January and July 2017, Vol. 8, No. 1 & 2.
- Heba Abuhussein, Giorgio Pagni, Alberto Rebaudi, Hom-Lay Wang. The effect of thread pattern upon implant osseointegration. Clin. Oral Impl. Res. 21, 2010 / 129–136.
- Redemagni M, Lomazzo C, Cremonesi S, Garlini G, Maiorana C. Soft Tissue Stability with Immediate Implants and Concave Abutments European Journal of Esthetic Dentistry. Volume 4. Number 4. Winter 2009.
- 18. López-López P, Mareque-Bueno J, Boquete-Castro A, Aguilar-Salvatierra Raya A, M Martínez-González J, L Calvo-C J. The effects of healing abutments of different size and anatomic shape placed immediately in extraction sockets c implant hard and soft tissues. Clin Orla Implants Res. 2016 Jan27(1):90-6 doi:10.1111/crl.12516. Epub 2014 Oct 31.
- Rompen E, Raepsaet N, Domken O, Touati B, Van Dooren E. Soft tissue stability at the facial aspect of gingivally converging abutments in the esthetic zone: A pilot clinical study. The Journal of Prosthetic Dentistry. Volume 97. Issue 6 supplement, June 2007, S119-S125.
- 20. Caram S, Huynh-Ba G, Schoolfield J, Jones A, Cochran D, Belser U. Biologic Width Around Different Implant-Abutment Interface Configurations. A Radiographic Evaluation of the Effect of Horizontal Offset and Concave Abutment Profile in the Canine Mandible Int J Oral Maxillofac Implants 2014;29:1114–1122.

