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N E X T *g e n e r a t i o n*

ORLUS



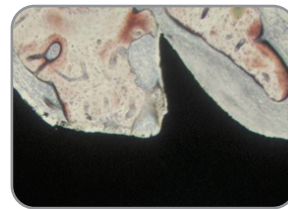
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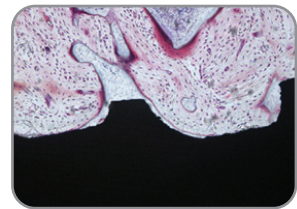
The ORLUS orthodontic mini-implant is designed for *enhanced stability* based on *scientific research*.

Histologic studies in beagle dogs and New Zealand white rabbits

For stability, good healing and maintenance of the osseous interface are necessary.



Fibrous interface



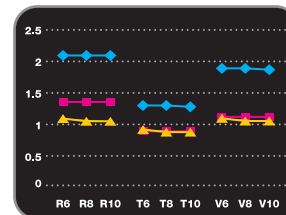
Osseous interface

Contact non-linear analyses using two-dimensional models

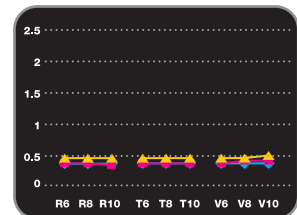
According to finite element model analysis, both thread design and screw diameter are important for initial stability in the cortical bone.

Overall effects of screw parameters on stress distribution

◆ 1.4 ■ 1.6 ▲ 2.2



Stress distribution in the cortical bone

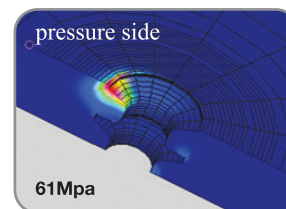


Stress distribution in the trabecular bone

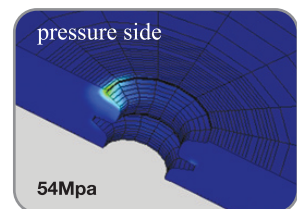
Contact non-linear analyses using three-dimensional models

Stress is concentrated on the pressure side of the cortical bone.

Trapezoid threads are superior from the standpoint of the stress distribution.



1.4mm in diameter, 6.0mm in length, Trapezoid thread, 200gm of loading.

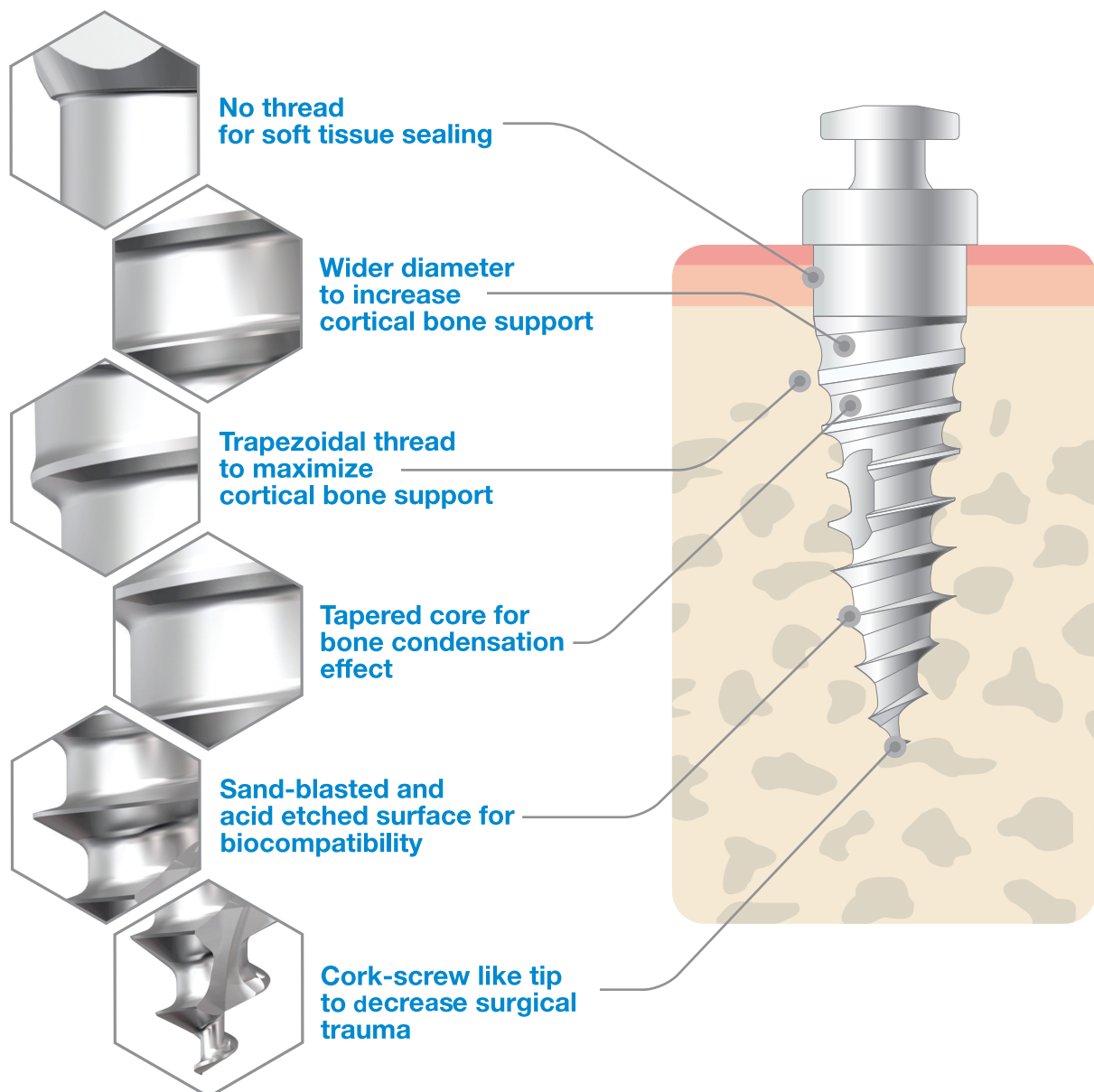


1.8mm in diameter, 6.0mm in length, Trapezoid thread, 400gm of loading.



The ORLUS orthodontic mini-implant is uniquely designed for *enhanced stability*.

..... This stability is neither technique-dependent nor site-dependent.

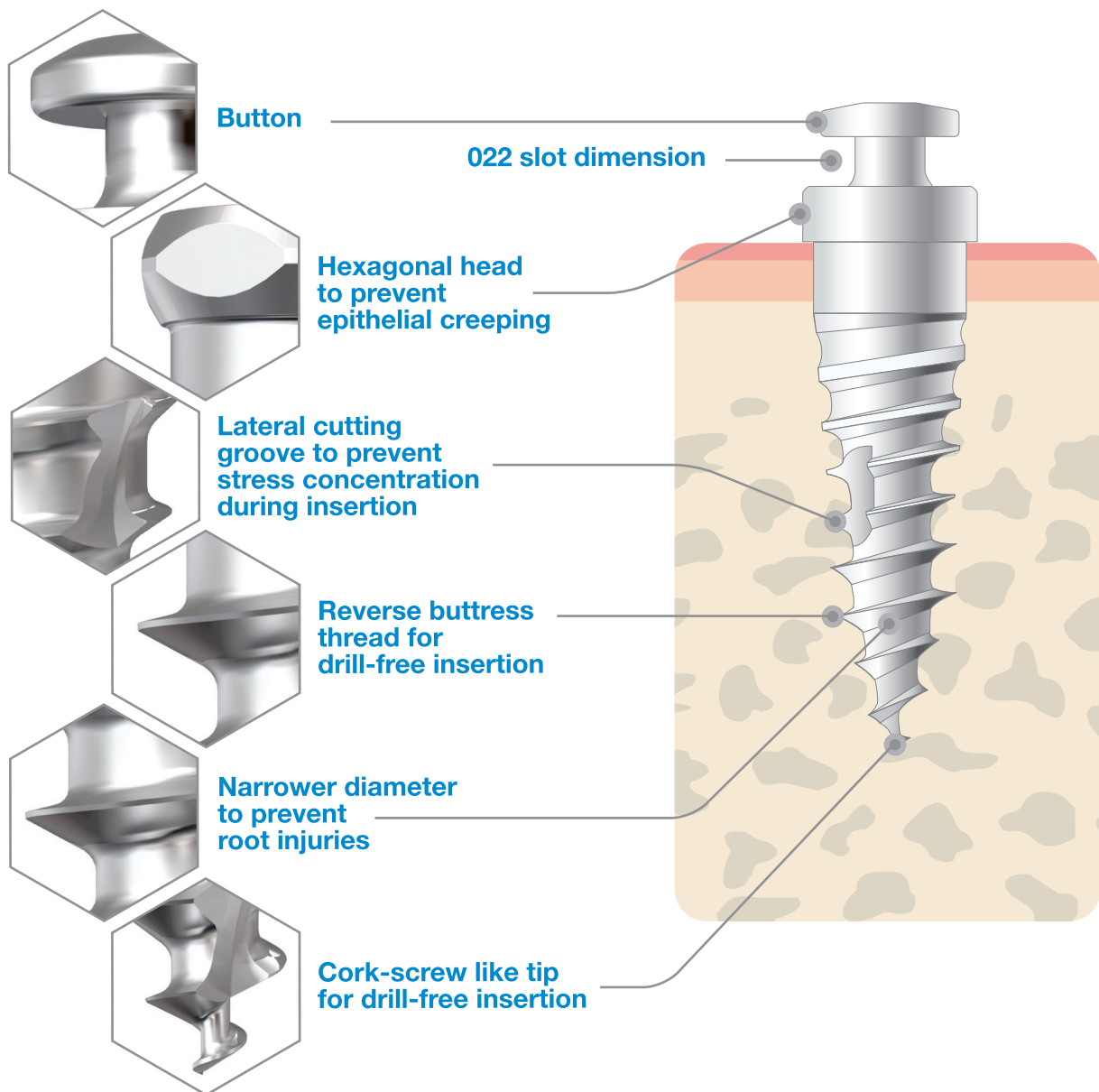




The ORLUS orthodontic mini-implant is designed for *enhanced clinical efficiency*.

The ORLUS mini-implant is easy to use and has a wide variety of uses. And the ORLUS mini-implant is also fail-safe.

Rounded edges decrease patient discomfort.

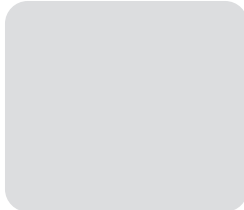
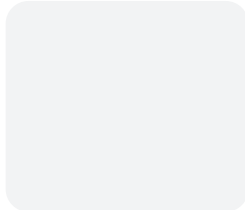




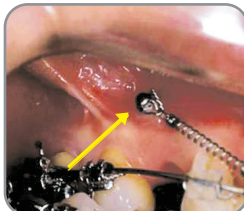
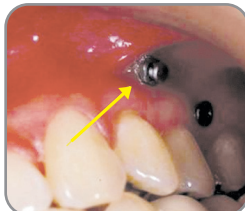
Simple to use & a wide variety of applications.

Pre-drilling or making a flap is not necessary.

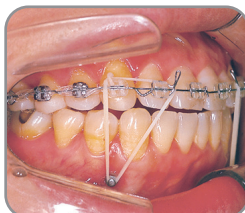
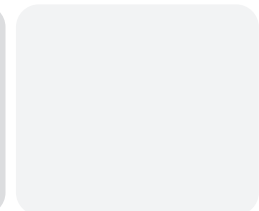
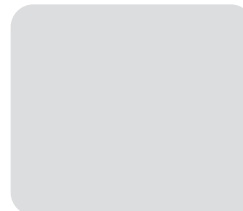
There is no problem with immediate loading of the implant



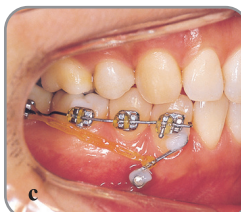
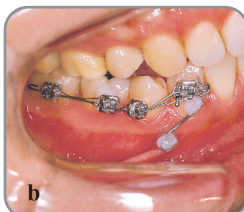
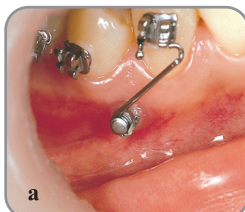
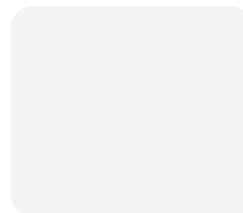
A hexagonal female driver tip makes the handling efficient and easy.



The implant is stable not only in the attached gingival, but also in the oral mucosa.



In addition to intra-arch applications, inter-arch elastic applications are also practical.

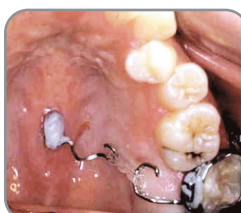
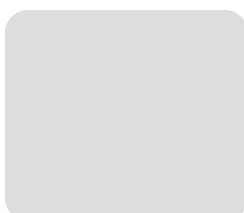
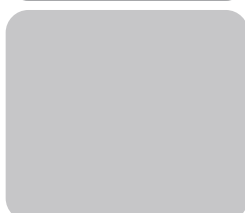
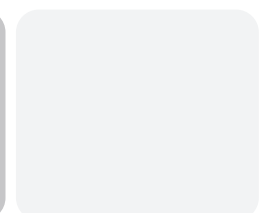
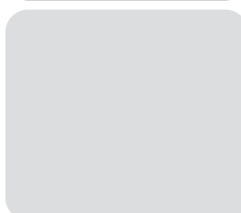


There is a .022 gap between button head and hexagonal body. ; this provides space for placement of an orthodontic wire (a).

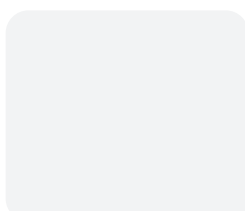
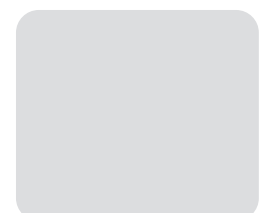
The wire can be attached to the implant and tooth with flowable composite(b), giving the individual tooth three-dimensional anchorage (c).



Using the same method shown in previous figures, the implant can be attached to a labiolingual appliance for maxillary protraction.



An extension arm is bonded to ORLUS implants for correction of scissor bite.



Anterior crossbite was corrected by growth modification, but slight relapse occurred by late mandibular growth. For active retention, implants were placed between

the lower 2nd bicuspid and 1st molar, and clear aligner with hook was used at night.

Elastics were also used from implants.



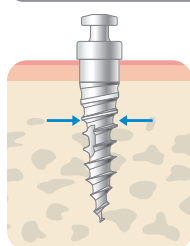
Specifications and system components

The ORLUS mini-implants are available in long and regular length.

The ORLUS mini-implants are also available in mini, regular and wide diameter.

An appropriate mini-implant can be selected based on soft and hard tissue conditions at the placement site.

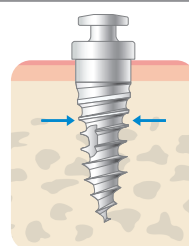
According to *hard* tissue conditions



Mini type

The mini type is used in places where abundant space is not available, such as at the anterior alveolus.

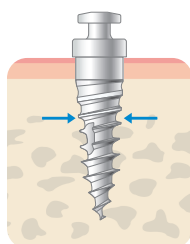
→ 1.4mm ←



Wide type

The wide type is used in general areas and in areas of inadequate bone quality.

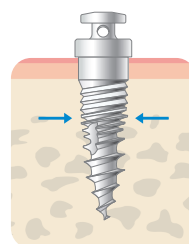
→ 1.8mm ←



Regular type

The regular type is used in general areas where the bone quality is adequate.

→ 1.6mm ←

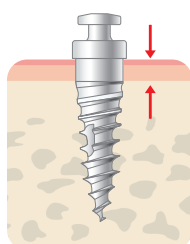


E T type

The E T type is used in general areas or lower posterior areas where the bone quality is too dense

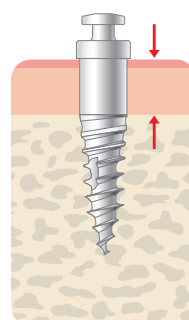
→ 1.6mm or 1.8mm ←

According to *soft* tissue conditions



Regular type

A screw length of 5mm with pre-drilling and 6mm without pre-drilling is usually sufficient for the bone contact.



Long type

The long type is designed for sites where the soft tissue is thick such as palatal alveolus area.

This type can also be used in areas of unattached gingival, reducing the likelihood of soft tissue overgrowth

1. For direct implantation : Driver tip (OS-DRT-102) / Driver handle (OS-DRH-01)

2. For indirect implantation : Driver tip (OS-DRT-E01/E02)

3. ORLUS surgical drill system

The ORLUS mini-implant can be placed without pre-drilling. But, to decrease surgical trauma during implantation and to prevent root injuries, a manual pilot drill system have been developed.

..... The manual ORLUS surgical pilot drill for the hand-driver (OS-DRL-H116)

..... The regular ORLUS surgical pilot drill for the contra angle (with dental notch) for palatal alveolus (OS-DRL-E161)

..... The long ORLUS surgical pilot drill for the contra angle (with dental notch) for midpalate (OS-DRL-E162)

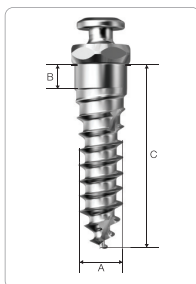
4. NiTi closed coil spring for ORLUS implant

The size of the mini-implant head is designed for elastic chains.

And NiTi coil spring designed for mini-implants with bigger hole can be used.

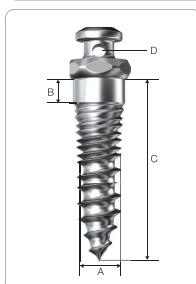


ORLUS CLASSIC



	A	B	C	
1O14106	1.4mm	1mm	6mm	Anterior alveolus
1O14107	1.4mm	1mm	7mm	
1O16106	1.6mm	1mm	6mm	Mx/Mn labial area Mx/Mn buccal area Midpalatal area
1O16107	1.6mm	1mm	7mm	
1O16108	1.6mm	1mm	8mm	
1O16208	1.6mm	2mm	8mm	Buccal shelf, Retromolar area Palatal alveolus area
1O18106	1.8mm	1mm	6mm	Mx/Mn buccal area Midpalatal area
1O18107	1.8mm	1mm	7mm	
1O18108	1.8mm	1mm	8mm	Buccal shelf, Retromolar area Palatal alveolus area
1O18208	1.8mm	2mm	8mm	
1O18309	1.8mm	3mm	9mm	For 3~4mm thick soft tissue palatal area
1O18410	1.8mm	4mm	10mm	For 4~5mm thick soft tissue palatal area

ORLUS ET



	A	B	C	D	
1T16107	1.6mm	1mm	7mm	Ø 0.6mm	Mn labial area Mn buccal area
1T16108	1.6mm	1mm	8mm	Ø 0.6mm	
1T18107	1.8mm	1mm	7mm	Ø 0.6mm	
1T18108	1.8mm	1mm	8mm	Ø 0.6mm	

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- 2013-I10-02-1069

ORLUS SURGICAL INSTRUMENTS



OS-DRH-01

Standard hand driver handle



OS-DRH-02

Small hand driver



OS-DRT-102

Standard hand driver tip



OS-DRT-201

Small hand driver tip



OS-DRT-E01

Short engine driver tip



OS-DRT-E02

Long engine driver tip



OS-DRL-H116

Pilot drill (Standard hand drill)



OS-DRL-E161

Pilot drill (Short engine drill)



OS-DRL-E162

Pilot drill (Long engine drill)



Container

Storage for sterilization



Ni-Ti closed coil spring

OS008 (L,M,H)
OS013 (L,M,H)

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- 2013-I10-02-1065
- 2013-I10-02-1066
- 2013-I10-02-1067