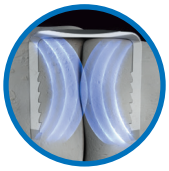
UNITE®
FOOT & ANKLE

REFLEX™ Nitinol Implants

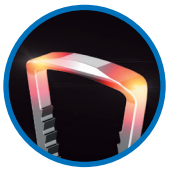
Dynamic discs and staples

FASCINATING FIXATION

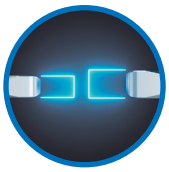
REFLEX™ Nitinol Staples



Curved bridge design for even compression across the fusion site



Reinforced shoulders improve strength in highest strain area



Ultra-low profile wide bridge (4.0 mm and 5.0 mm) for enhanced stability and minimal prominence

Over 2x greater compressive force than a leading competitor [2]

	REFLEX™ Mini	REFLEX™ Max	REFLEX™ Ultra
Size offering	8 x 8 mm 10 x 10 mm 12 x 12 mm	15 x 15 mm 15 x 18 mm 18 x 18 mm 18 x 20 mm 20 x 20 mm	20 x 20 mm 25 x 20 mm
Pre-drill diameter	Ø2.0 mm	Ø3.0 mm	Ø3.0 mm
Bridge thickness	1.2 mm	1.4–1.5 mm (transitional profile)	1.5–1.7 mm (transitional profile)
Bridge width	1.5 mm	4.0 mm	5.0 mm

REFLEX™ Instruments

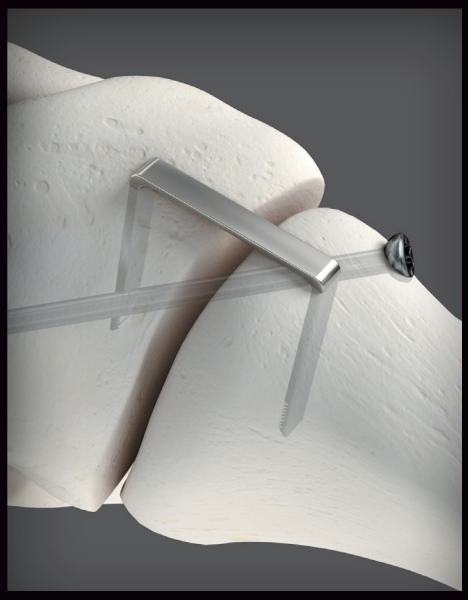
2.5 mm Akin stepped saw blade allows for easy, reproducible osteotomies

Adjustable inserter with elevator tips to aid in implant insertion and removal

Discover compression without compromise

While nitinol staples have steadily risen in popularity, static plates and screws are widely used in conjunction with staples to provide added fixation and stability. A key disadvantage of such hybrid constructs is the inherent neutralization of compression caused by the addition of static devices such as locking plates and cannulated screws.

Common constructs incorporating Nitinol



Staple with static screw

Plate with staple

Nitinol plate with static screw

Fortunately, Nitinol technology is evolving, leading the way to new possibilities for internal fixation. The REFLEX™ portfolio represents a major step forward in continuous compression implants by harnessing nitinol's superelastic and shape memory properties and applying them to novel implants and fully dynamic hybrid fixation constructs.

REFLEX™ Nitinol Dynamic Disc

A novel concept for screw dynamization

REFLEX Nitinol Dynamic Disc is an innovative implant that transforms a traditional static lag screw* into a dynamic construct. REFLEX disc provides continuous compression and gap recovery up to 4.0 mm to address bone resorption occurring during the post-operative healing phase.[1]

Compressive force and gap recovery (in vitro)

Screw and Nitinol Disc Size	Max Compressive Force	Max Gap Recovery	Compressive Force (N) at Various Gap Distances (mm)							
			0.5 mm	1.0 mm	1.5 mm	2.0 mm	2.5 mm	3.0 mm	3.5 mm	4.0 mm
Ø4.0 mm with REFLEX disc	196 N	2.5 mm	26 N	16 N	12 N	4 N	<1 N			
Ø4.5 mm with REFLEX disc	347 N	3.0 mm	58 N	43 N	23 N	9 N	2 N	<1 N		
Ø5.5 mm with REFLEX disc	508 N	3.0 mm	173 N	86 N	46 N	27 N	3 N	<1 N		
Ø7.0 mm with REFLEX disc	503 N	4.0 mm	168 N	140 N	94 N	67 N	56 N	47 N	24 N	<1 N
Ø7.0 mm with traditional washer	570 N	0.4 mm								
Ø7.0 mm without traditional washer	531 N	<1.0 mm	5 N							

Clinical applications


LAPIDUS


TN FUSION

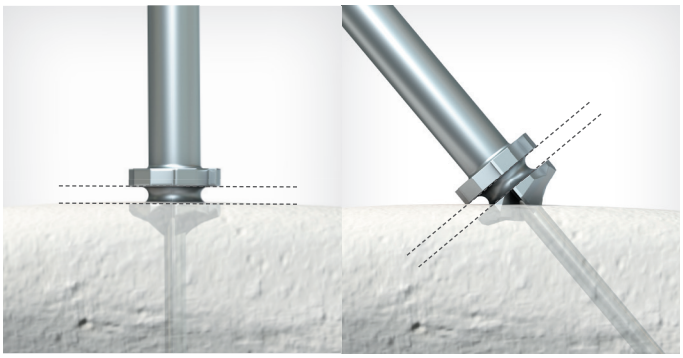

SUBTALAR FUSION


ANKLE FUSION

*FDA cleared for use with UNITE cannulated screws

How the dynamic disc works

Countersinking



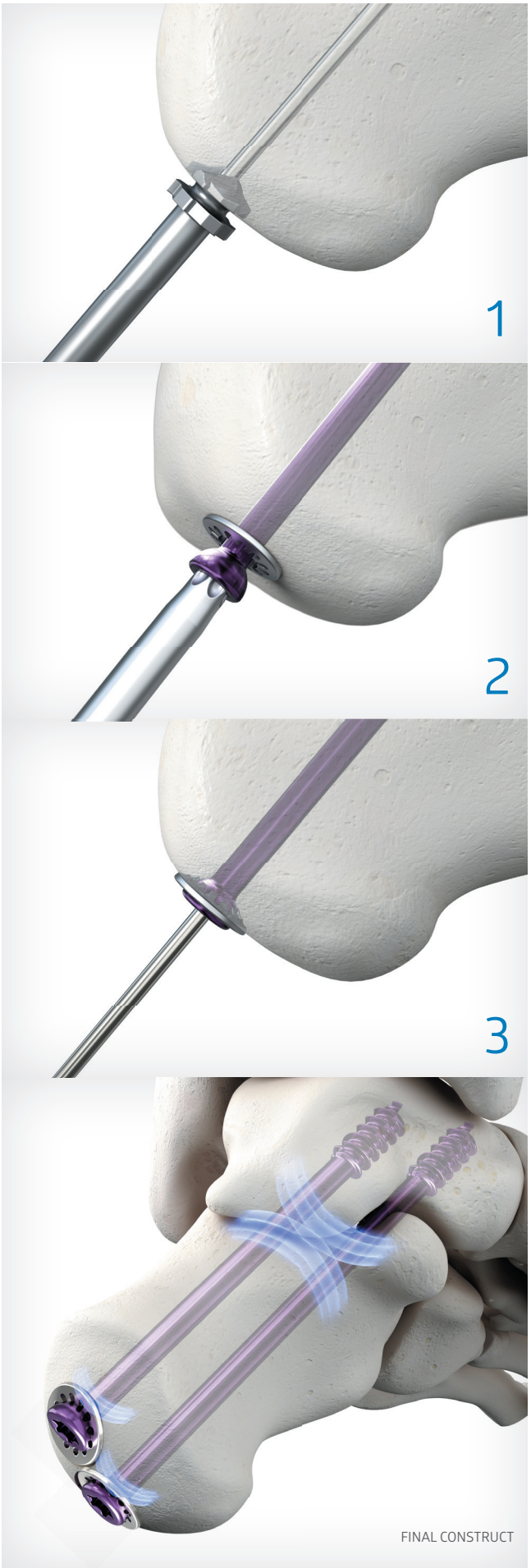
PERPENDICULAR PLACEMENT OBLIQUE PLACEMENT

1 Following wire placement, measurement and drilling, a specially designed countersink is used to create a pocket in the cortex to accommodate the disc

2 The disc is loaded onto the screw, with the **convex** side directly against the screw head, and inserted in typical fashion. Upon final seating and tightening, the screw head deforms the dynamic disc

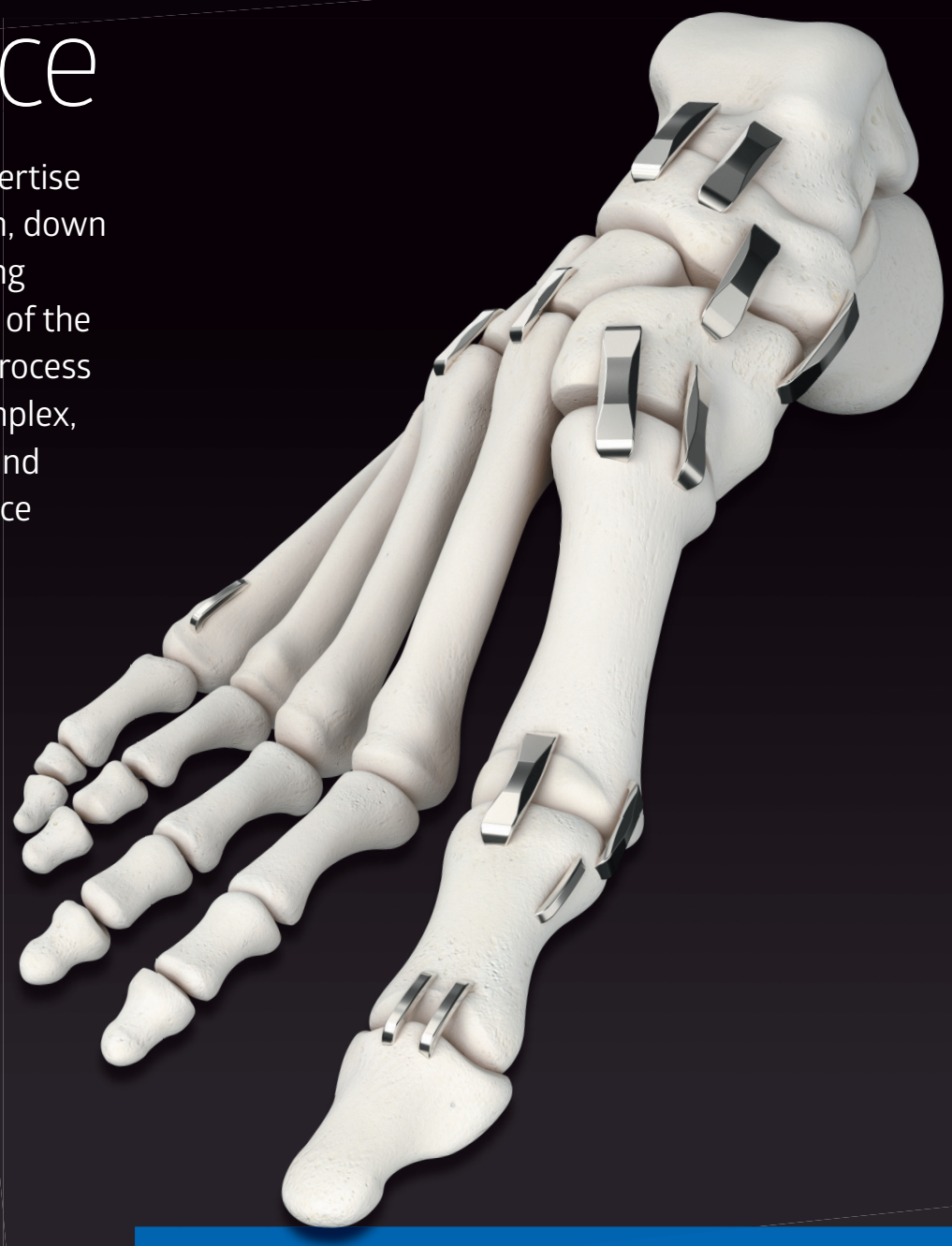
3 The disc is engineered to resist deformation by exploiting the superelastic and shape memory properties of the nitinol, and the effect leads to continuous compression at the joint

Used in conjunction with one another, REFLEX nitinol staples and dynamic discs provide a fully dynamic hybrid construct while providing robust fixation and stability



Expertise in practice

UNITE is guided by the expertise of our surgeon design team, down to the finest details. Ongoing collaboration at every step of the way is at the heart of the process in order to address the complex, unmet needs of surgeons and advance clinical performance through intelligent design.



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1. staple | 2. dynamic disc

Have questions about continuous dynamic compression? Contact your Medline UNITE Representative or visit medlineunite.com.

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REFERENCES. 1. Palmisano, A.C., et al. Heat Accumulation During Sequential Cortical Bone Drilling. Wiley Online Library, September 2015. **2.** Data on file.