

PRODUCT INFORMATION

**FEATURING PSEUDOELASTIC
NICKEL TITANIUM TECHNOLOGY**

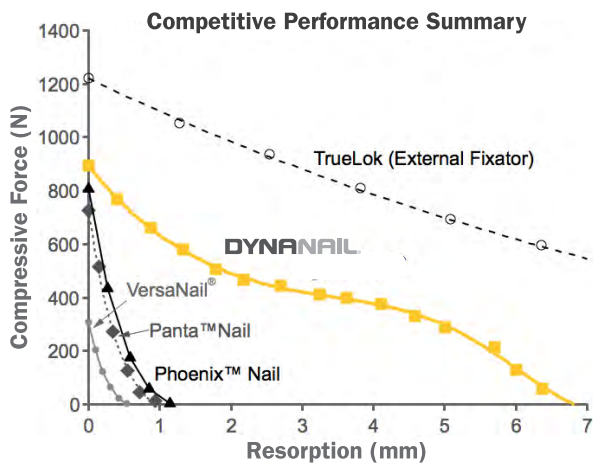


DYNANAIL[®]
TTC FUSION SYSTEM

SUSTAINED COMPRESSION

Compression of a fusion site is critical in ensuring joint stability and promoting bone union. Existing IM nails provide stability and rigidity in their stiff titanium outer body, either using external frame compression or an internal compression "screw." However, IM nails lose 90% of their compression in the face of bone resorption.¹ Until now, external fixators were the only TTC fusion devices capable of providing sustained compression during bone resorption.

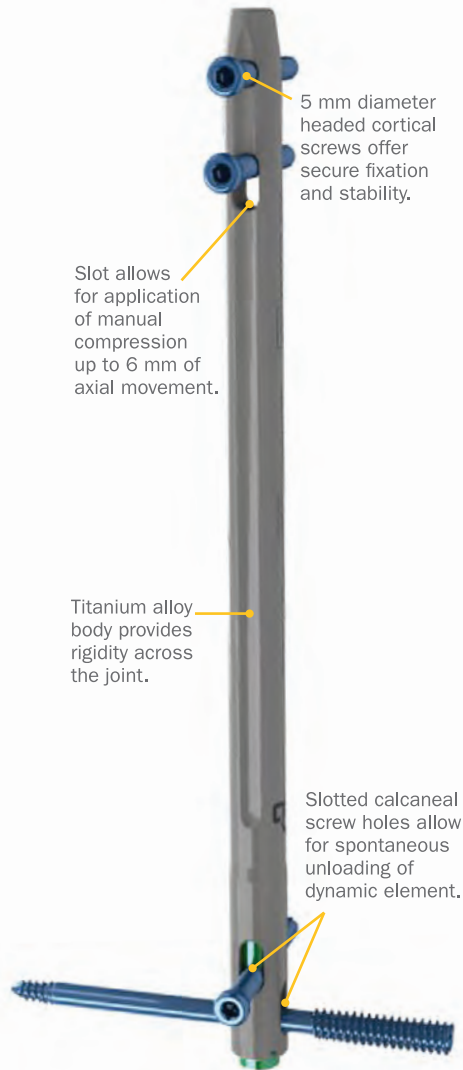
The internal dynamic element of DynaNail automatically adapts in response to bone resorption, up to 6 mm, allowing for sustained axial compression, similar to an external fixator.^{2,3}



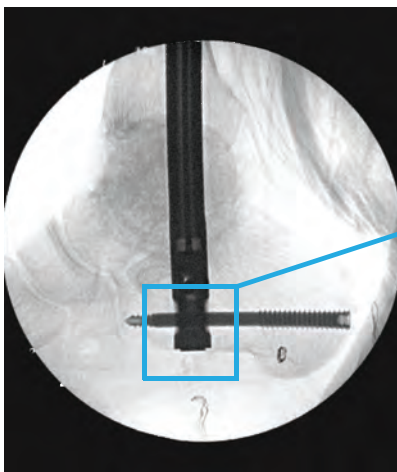
Data represents loss of compression as a function of bone resorption in synthetic bone.



DYNANAIL®



WATCH THE ELEMENT IN ACTION!



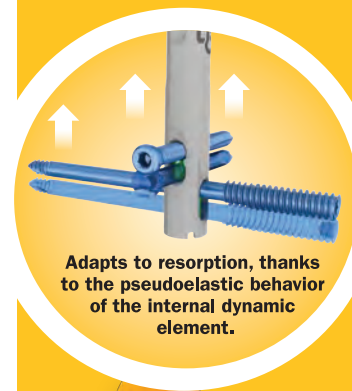
IMMEDIATE POST-SURGERY

The unloading of the Element can be visualized under X-ray



6 WEEKS POST-SURGERY

Images courtesy of Dr. Thomas SanGiovanni
UHZ Sports Medicine Institute, Coral Gables, FL



¹ Yakacki et al. Compression forces of internal and external ankle fixation devices with simulated bone resorption. Foot Ankle Int. 2010. 31(1): 76-85.

² Yakacki et al. Pseudoelastic nailing for tibio-talo-calcaneal arthrodesis. Expert Rev Med Devices, 2011. 8(2): 159-166.

³ Data on File, MedShape, 2013.

The DynaNail® TTC Fusion System provides the sustained axial compression of an external fixator, while having the low profile and rigidity of an intramedullary nail.

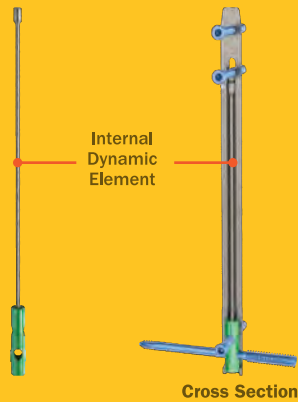
“The DynaNail is an unrivaled orthopedic device and my implant of choice for hindfoot arthrodeses. No other hindfoot fusion device allows for intraoperative compression and accounts for postoperative bone resorption through sustained dynamic compression. It's amazing to 'see' the DynaNail at work!”

– Samuel Adams, MD
Duke University, Durham, NC

Designed for use in tibiotalocalcaneal (TTC) fusion procedures to address the following:

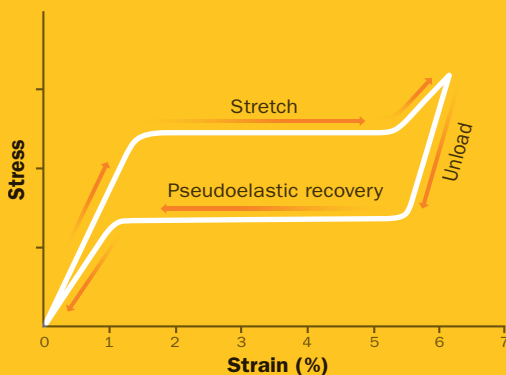
- Joint Deformities
- Degenerative Conditions
- Failed Total Ankle Replacements
- Arthrodesis Procedure Non-unions

**NiTINOL. It's Superelastic.
It's Fantastic!**



The DynaNail takes advantage of the pseudoelastic properties of its internal nickel titanium (NiTiNOL) element. When the element is stretched, the NiTiNOL spontaneously recovers its strain upon unloading, applying sustained compression across the joint.

Pseudoelastic Behavior of NiTiNOL



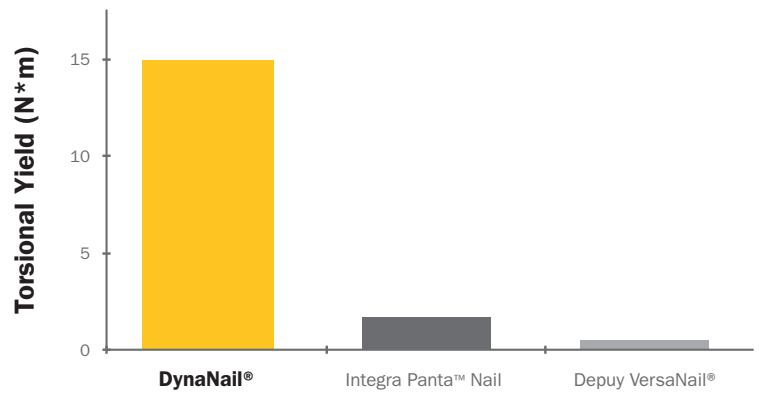
“The capacity of the DynaNail to sustain compression post-surgery is a unique and critical function in TTC fusions where bone resorption will be significant.”

– Troy Watson, MD
Desert Orthopedic Center, Las Vegas, NV

TORSIONAL STABILITY

Torsional instability is a primary driver of nonunion in TTC arthrodesis procedures. The Dynanail offers superior torsional stability under low amounts of bone resorption compared with IM nails that can only provide intra-operative manual compression.⁴

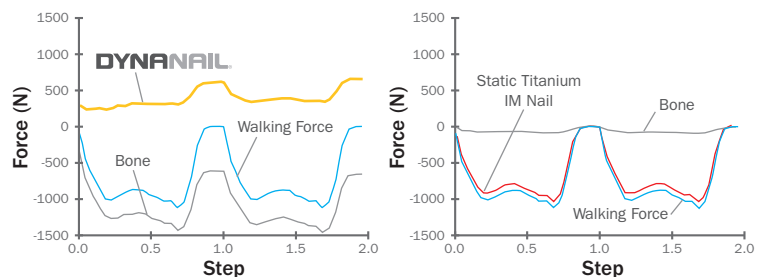
Comparison of Torsional Stability Across TTC Joint After 0.25 mm Resorption



IMMEDIATE DYNAMIZATION

Unlike static nails, the DynaNail effectively shares weight-bearing loads with the bones of the TTC joint during daily movement; whereas, traditional nails stress shield walking forces as soon as the bones experience base levels of healing/resorption.⁵

Comparison of Load Sharing Behavior across TTC Joint



⁴ Pitz MK. Compression-aided stability of orthopaedic devices. MS Thesis, Georgia Institute of Technology, 2011.
⁵ Data on File, MedShape, 2011.

EFFICIENT INSTRUMENTATION

The targeting frame system offers several unique features that facilitate rapid and accurate placement of the DynaNail®.

Manufactured out of PEEK (polyetheretherketone):

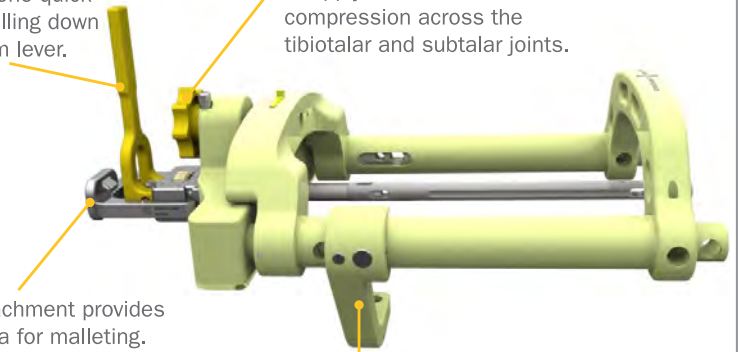
- Excellent mechanical strength and durability
- Radiolucent to permit radiographic visualization during implantation
- Lightweight for easy handling

The internal dynamic element can be loaded in one quick step by pulling down on the cam lever.

Turn the compression knob to apply instant manual compression across the tibiotalar and subtalar joints.

Anvil attachment provides large area for malleting.

PA targeting arm attaches to frame enabling precise placement of posterior-anterior screw.

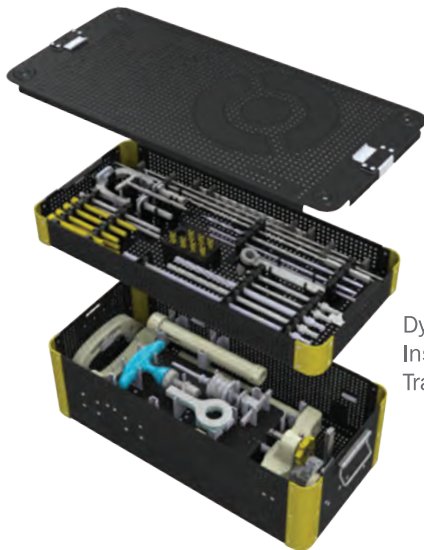


DYNANAIL TTC FUSION SYSTEM

Part No.	Description
1200-01-1222	DynaNail, 12 mm x 22 cm
1200-01-1022	DynaNail, 10 mm x 22 cm

DYNANAIL SINGLE USE INSTRUMENTS

Part No.	Description
2200-18-4031	Trocar-Tipped Guidewire, 3.1 mm x 400 mm
2200-18-5031	Bead-Tipped Guidewire, 3.1 mm x 500 mm
2200-19-0031	Steinmann Pin, 3.1 mm
2200-09-0040	4 mm Drill
2200-09-0050	5 mm Drill



DynaNail Instrument Tray

DYNANAIL FIXATION SCREWS

Part No.	Description
1200-02-5020	Headed Cortical Screw, 5.0 mm x 20 mm
1200-02-5025	Headed Cortical Screw, 5.0 mm x 25 mm
1200-02-5030	Headed Cortical Screw, 5.0 mm x 30 mm
1200-02-5035	Headed Cortical Screw, 5.0 mm x 35 mm
1200-02-5040	Headed Cortical Screw, 5.0 mm x 40 mm
1200-02-5045	Headed Cortical Screw, 5.0 mm x 45 mm
1200-02-5050	Headed Cortical Screw, 5.0 mm x 50 mm
1200-02-5055	Headed Cortical Screw, 5.0 mm x 55 mm
1200-02-5060	Headed Cortical Screw, 5.0 mm x 60 mm
1200-03-5065	Headless PA Screw, 5.0 mm x 65 mm
1200-03-5070	Headless PA Screw, 5.0 mm x 70 mm
1200-03-5075	Headless PA Screw, 5.0 mm x 75 mm
1200-03-5080	Headless PA Screw, 5.0 mm x 80 mm
1200-03-5085	Headless PA Screw, 5.0 mm x 85 mm
1200-03-5090	Headless PA Screw, 5.0 mm x 90 mm
1200-03-5095	Headless PA Screw, 5.0 mm x 95 mm
1200-03-5100	Headless PA Screw, 5.0 mm x 100 mm
1200-03-5105	Headless PA Screw, 5.0 mm x 105 mm
1200-03-5110	Headless PA Screw, 5.0 mm x 110 mm

CAUTION: Federal (USA) law restricts this device to sale by or on the order of a physician.
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 MK-10084 Rev 03. Issued 01/2015. DynaNail is a registered trademark of MedShape, Inc.
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For further product information or to arrange a product demonstration, please contact your local MedShape representative or call Customer Service at 877-343-7016. You can also visit www.medshape.com.



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