



FEATURES
BROCHURE

enovis™

DYNANAIL®

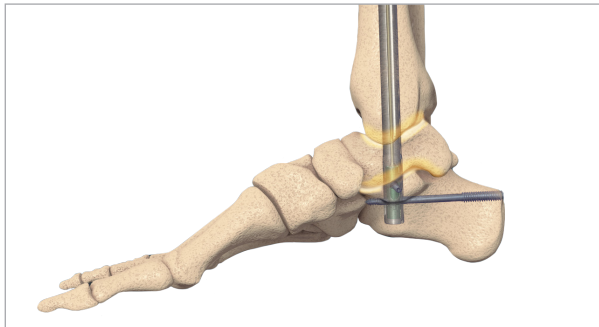
ACTIVE, ADAPTIVE HEALING FOR MIDFOOT & HINDFOOT FUSION

NAIL SYSTEM



THE DYNANAIL® PORTFOLIO

Sustained dynamic compression. NiTiNOL core. Bone fixation. These are just a few ways to describe the DynaNail® family. Leaving a legacy for foot and ankle surgeries, these nails are built to last. See the below portfolio to understand how each nail is best utilized.



DYNANAIL® TTC

The original member of the DynaNail family, the full-size DynaNail is indicated for TTC or hindfoot fusion.



DYNANAIL HELIX™

The most versatile of the family, DynaNail Helix™ can be used for ankle fusion, subtalar fusion, and calcaneal sliding osteotomies.



DYNANAIL MINI®

The DynaNail Mini® system addresses medial column fusions as well as revision subtalar fusion procedures in poor bone that require extra stability. Mini shares universal instrumentation with the DynaNail Hybrid™ system.

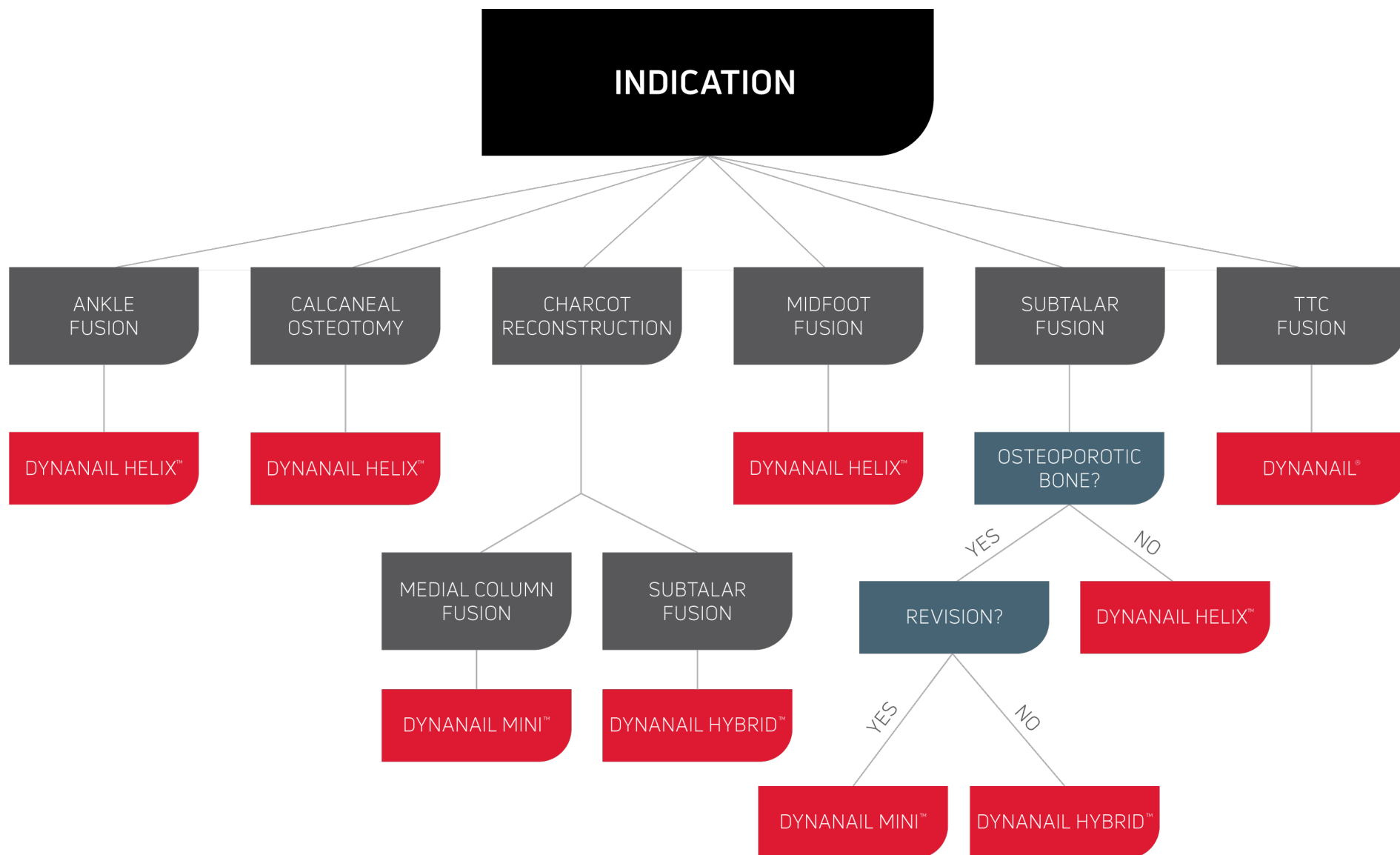


DYNANAIL HYBRID™

Given the added fixation from its calcaneal cross-screw, the DynaNail Hybrid™ is used mainly for primary subtalar fusions for patients with poor bone quality and subtalar fusion revisions.

WHICH DYNANAIL® SHOULD I USE?

The below decision tree outlines the recommended DynaNail implant for each indication.



SUSTAINED COMPRESSION WITHOUT EXTERNAL FIXATION? NAILED IT

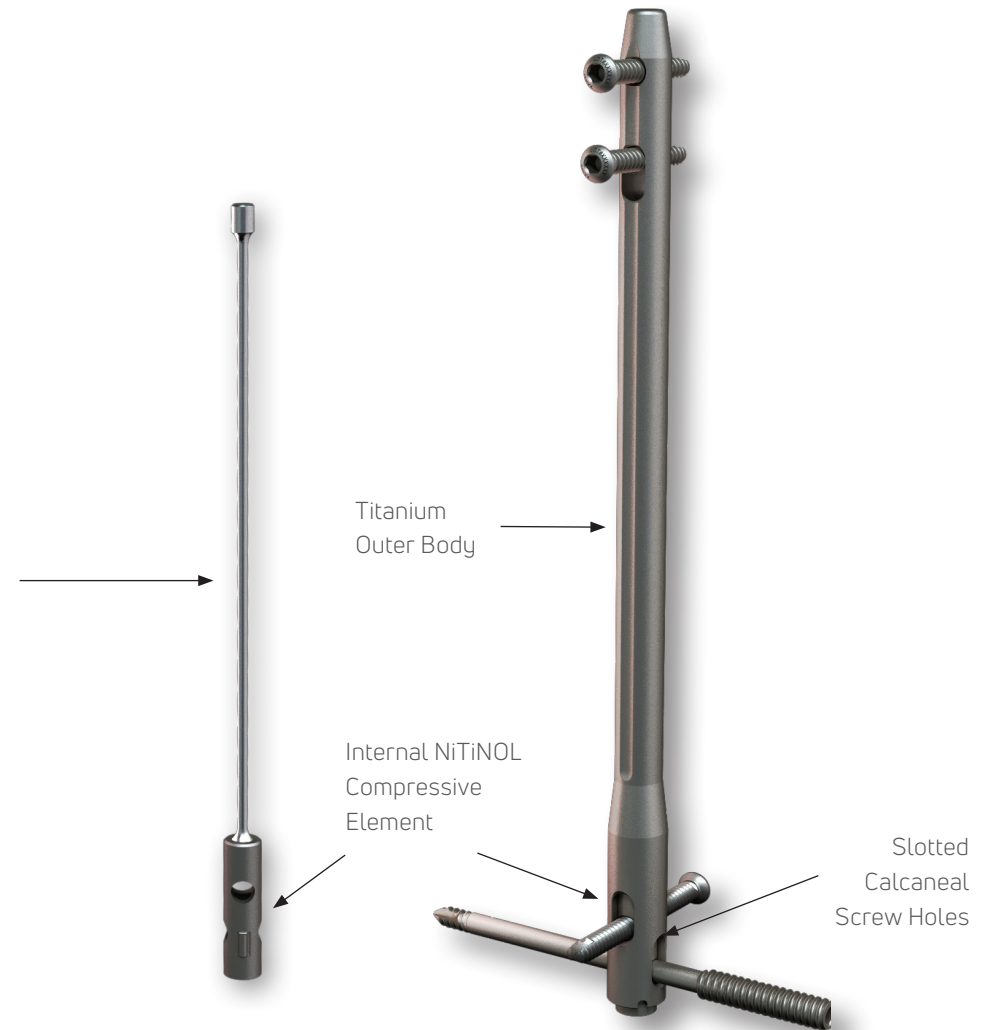
DYNANAIL® TTC

The DynaNail® TTC Fusion System is the only fusion approach that offers the compression performance of an external fixator inside an intramedullary nail.

Achieve 6 mm of active, sustained dynamic compression, PLUS 6 mm of intraoperative manual compression.¹

Featuring an innovative pseudoelastic internal NiTiNOL Compressive Element that:

- Automatically adapts and responds to bone resorption or settling
- Sustains active dynamic compression throughout the healing process

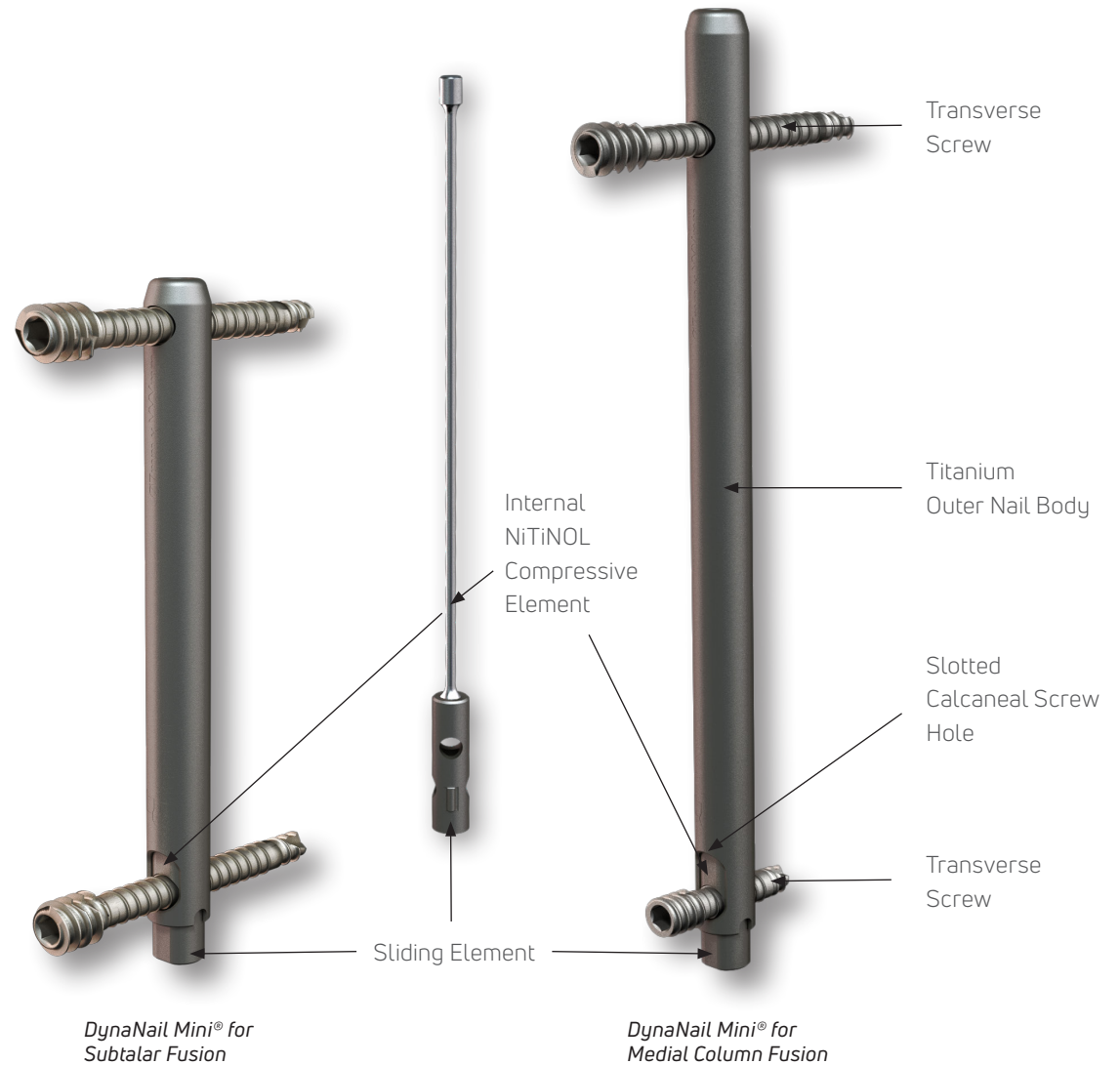


SAME SUSTAINED COMPRESSION, SMALLER FORM

DYNANAIL MINI®

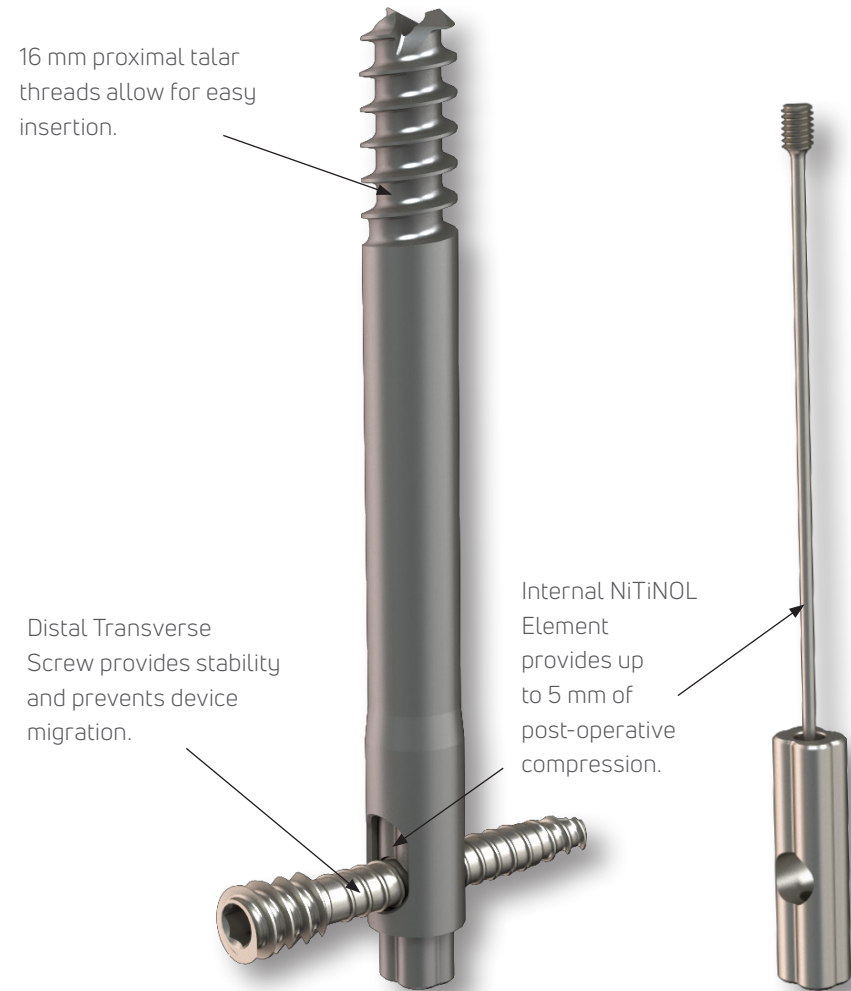
The DynaNail Mini® Fusion System offers the same sustained dynamic compression benefits as its larger predecessor, the DynaNail®, just in smaller form for medial column fusion and subtalar fusion.

- Offers **between 2 - 5.5 mm of post-operative sustained dynamic compression** PLUS intra-operative manual compression²
- Provides strong joint stability due to sustained compression
- Dual transverse screw fixation prevents device migration



DYNANAIL HYBRID™

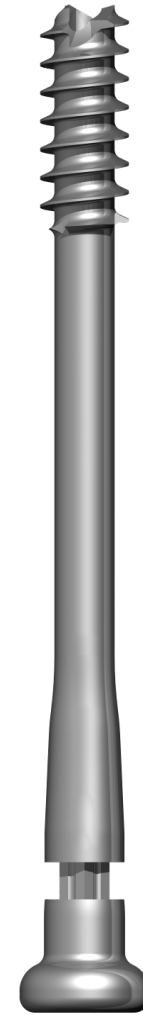
The DynaNail Hybrid™ offers surgeons another robust option for subtalar fusion procedures. The implant's "hybrid" design combines the sustained, dynamic compressive force and stability of a nail with the easy insertion and anatomical friendliness of a screw. The internal NiTiNOL Element sustains dynamic compression up to 5 mm of bone settling and resorption depending on implant length for extra compressive power.³



DYNANAIL HELIX™

The DynaNail Helix™ Fusion System also features Enovis' patented and proven pseudoelastic internal NiTiNOL Compressive Element technology miniaturized for subtalar fusion procedures.^{2,3}

The DynaNail product line, including DynaNail Helix, is the only line of nail implants that sustains active dynamic compression post-surgery in response to bone settling or resorption. DynaNail Helix allows for easy insertion like a screw while offering sustained compression and stability to prevent device migration. The implant comes in both headed and headless options for anatomical and procedural versatility.



Headed Implant

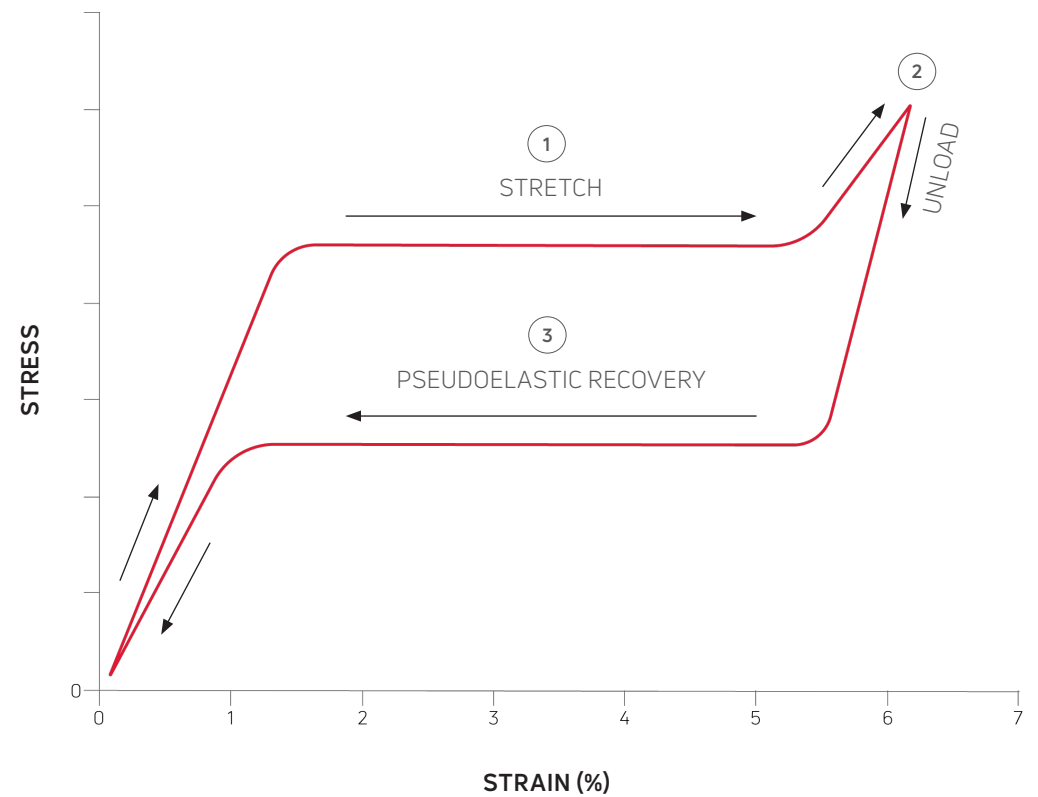


Headless Implant

IT'S SUPERELASTIC

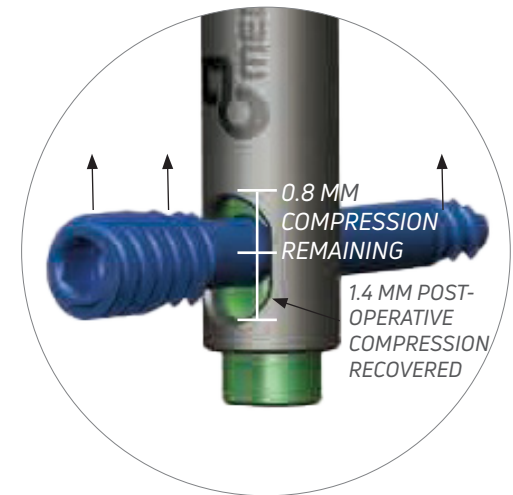
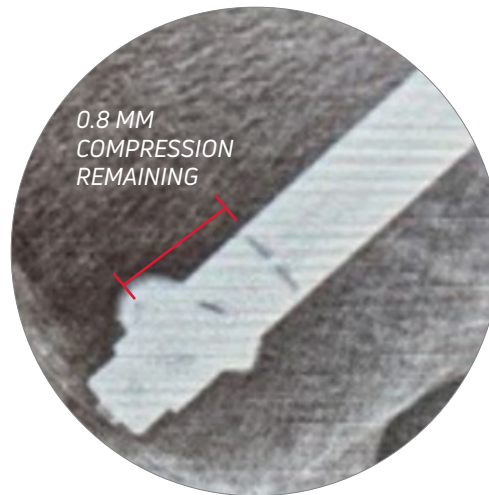
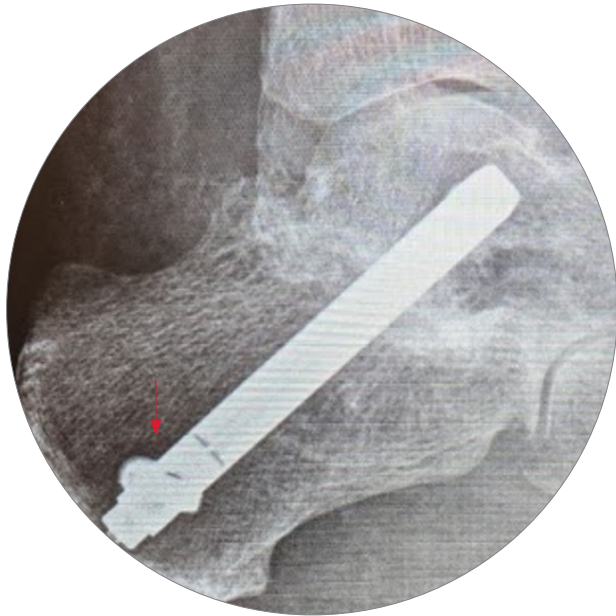
THE "RUBBER-BAND" EFFECT

The DynaNail Mini's internal NiTiNOL Compressive Element is pre-stretched (**1** in graph to right) and fixed with screws (**2**). Post-surgery, the NiTiNOL Element will automatically recover its stretched length due to unloading in response to bone resorption or settling (**3**), analogous to a very strong rubber band.



SEE THE COMPRESSIVE ELEMENT IN ACTION

The distance the NiTiNOL Element recovers can be measured and tracked on x-ray post-surgery. In this case, with a 70 mm DynaNail Mini®, the Calcaneal Screw is located 0.8 mm from proximal end of Nail Outer Body slot, indicating the NiTiNOL Element has recovered 1.4 mm of its stretched length with 0.8 mm of compression remaining.



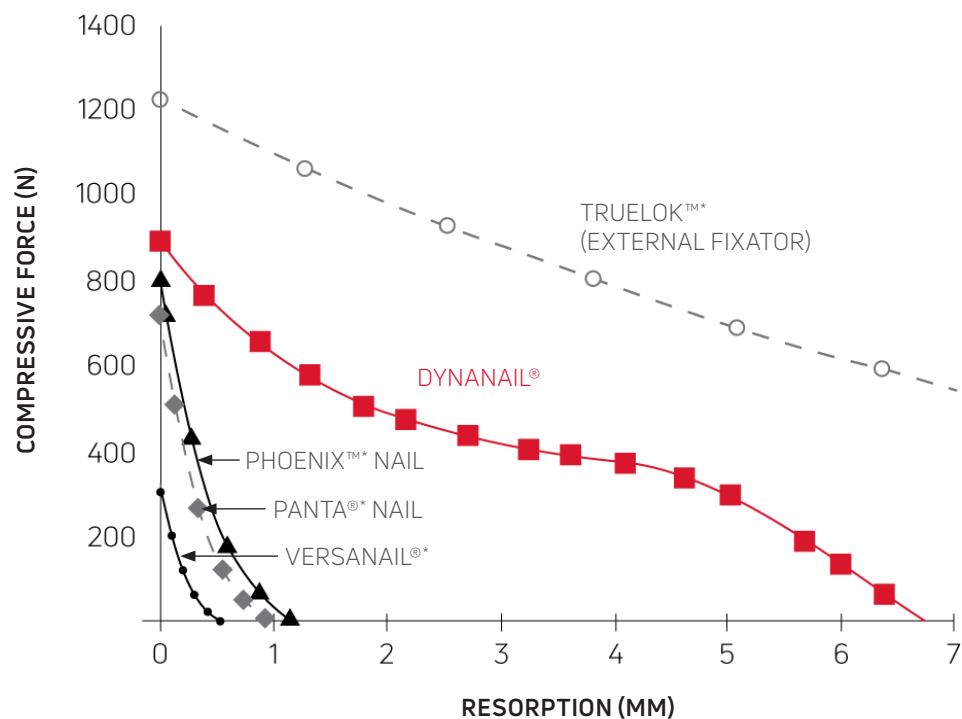
7-weeks post-operative x-ray of a 70 mm DynaNail implanted in an 83-year-old female

THE PROOF IS IN THE SCIENCE

SUSTAINED DYNAMIC COMPRESSION

Until now, external fixators were the only devices capable of sustaining compression in the face of significant bone resorption. Existing intramedullary nails only provide intra-operative compression and will lose 90% or more of their compression when just 1 mm of bone resorption occurs.⁴

The DynaNail® maintains up to 6 mm of post-operative compression in response to bone resorption or settling, similar to an external fixator.^{4,5}



6 mm

of post-operative compression is offered by the DynaNail, comparable only to the compression provided by an external fixator.

Data represents loss of compression as function of increased bone resorption in synthetic bone. Laboratory testing does not necessarily indicate clinical performance.⁵

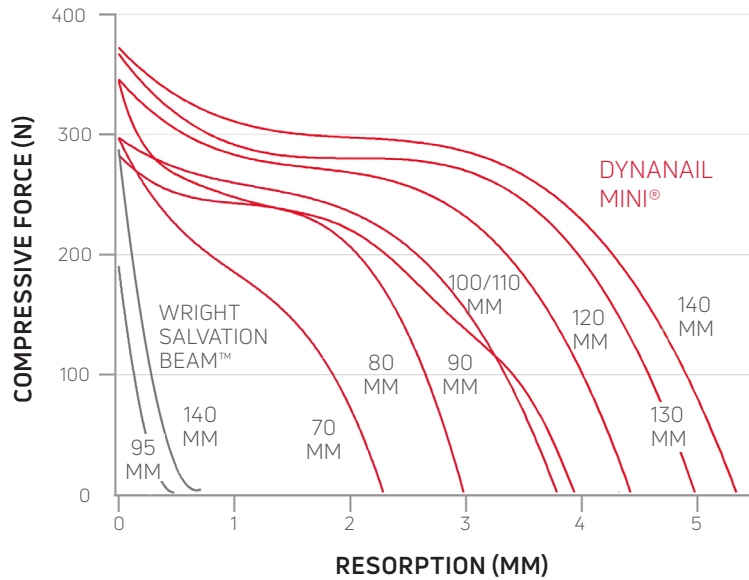
*Phoenix™ and VersaNail® are trademarks of Biomet, C.V.

*Panta® is a registered trademark of Smith & Nephew plc.

*TrueLok™ is a trademark of Orthofix Medical, Inc..

Unlike traditional screws that lose compression post-operatively, the DynaNail Mini® Family is the only solution for midfoot and hindfoot fusion that sustains dynamic compression throughout healing. DynaNail Mini, DynaNail Hybrid™, and DynaNail Helix™ all provide up to ~5 mm of sustained dynamic compression in response to bone settling or resorption, depending on implant length.^{4,6}

DYNANAIL MINI® COMPRESSION PERFORMANCE SUMMARY



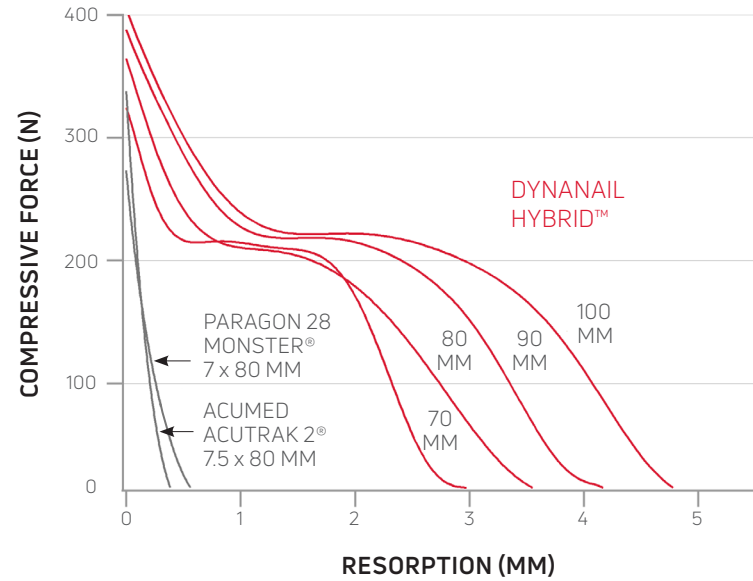
Data represents loss of compression as function of increased bone resorption in synthetic bone. Laboratory testing does not necessarily indicate clinical performance.

Salvation Beam™ is a trademark of Wright Medical Group N.V.

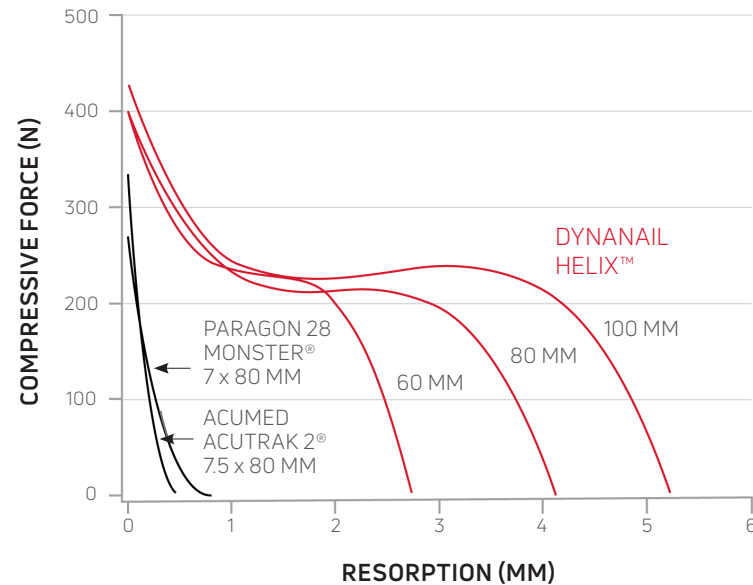
Monster® is a registered trademark of Paragon 28, Inc

Acutrak 2® is a registered trademark of Acumed, LLC

DYNANAIL HYBRID™ COMPRESSION PERFORMANCE SUMMARY



DYNANAIL HELIX™ COMPRESSION PERFORMANCE SUMMARY



PRE-LOADED ASSEMBLY

ENHANCED INTRAOPERATIVE EFFICIENCY

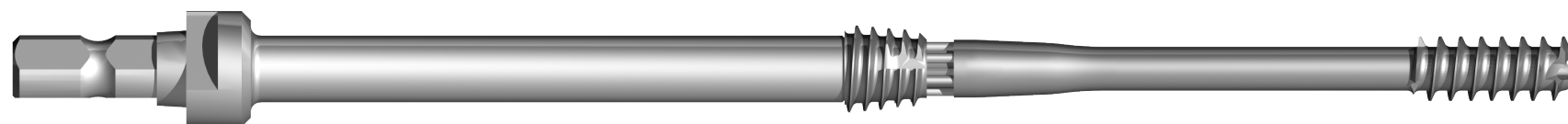
The DynaNail Mini®, DynaNail Hybrid™, and DynaNail Helix™ come pre-stretched and pre-loaded on a disposable Nail Guide. Just connect the Nail Guide to the Targeting Frame and implant.



DynaNail Mini



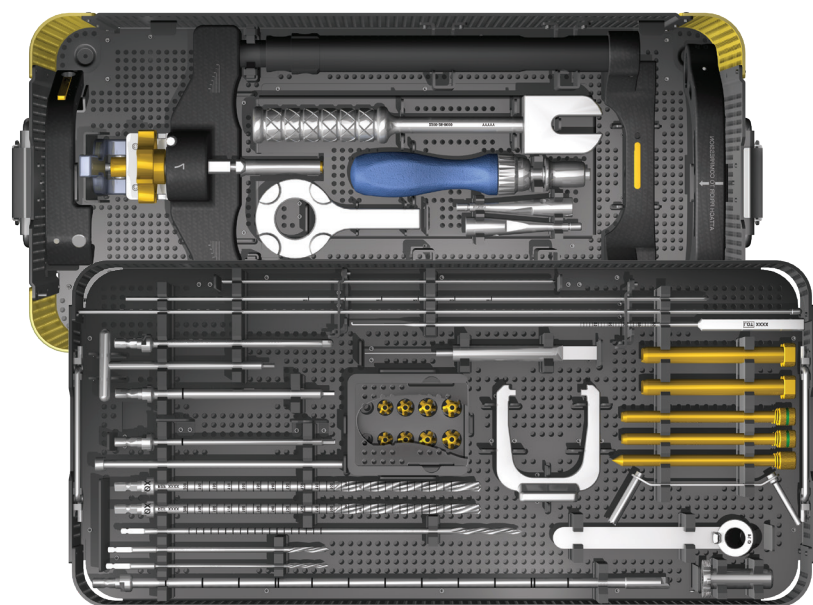
DynaNail Hybrid



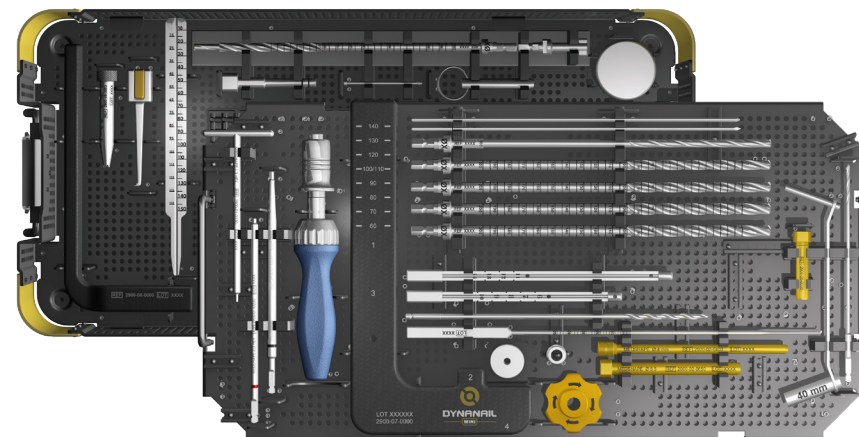
DynaNail Helix

STREAMLINED INSTRUMENTATION

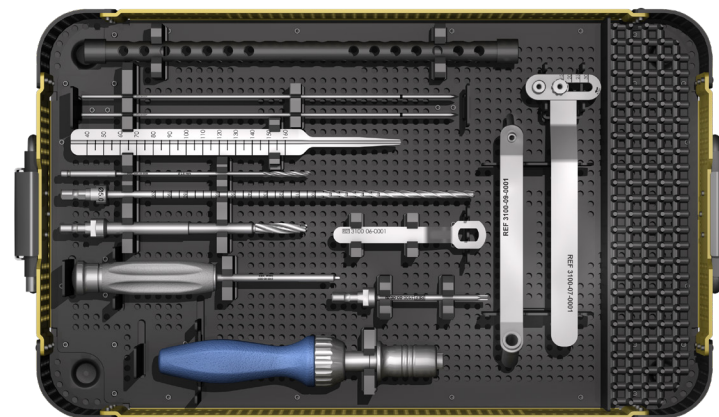
Instrumentation for each implant comes packaged in a single tray for procedural efficiency.



DynaNail® TTC



DynaNail Mini™ & DynaNail Hybrid™

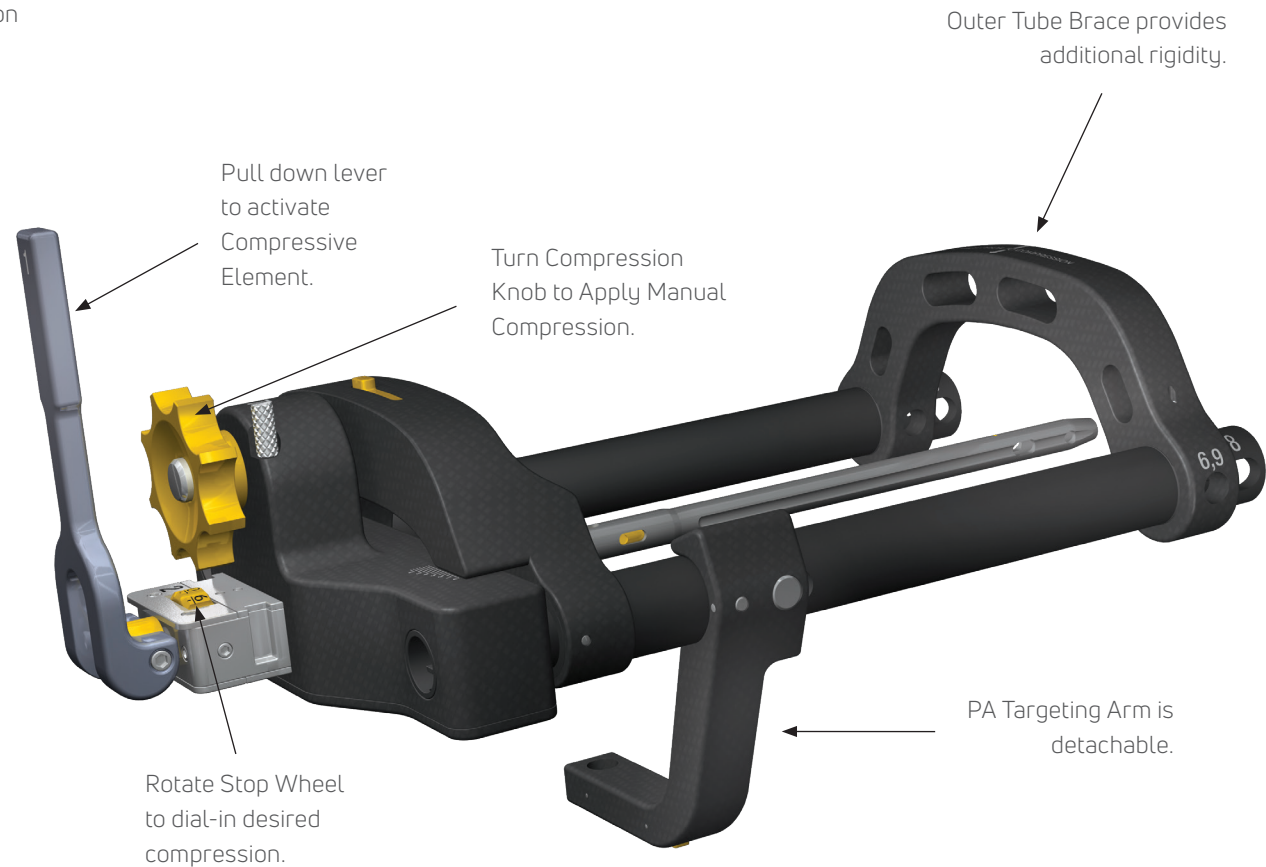


DynaNail Helix™

INSTRUMENTATION THAT PROMOTES ACCURACY

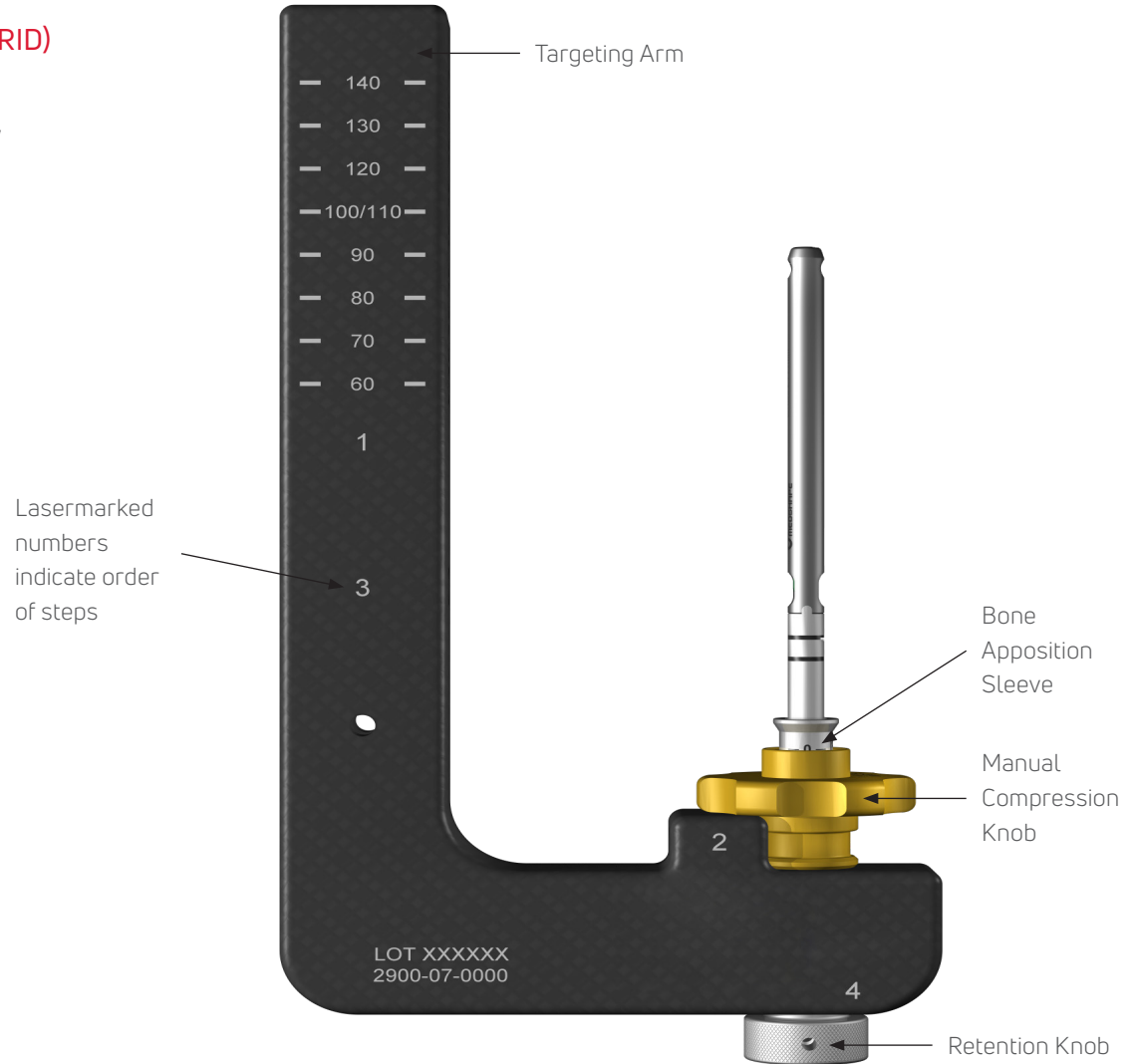
THE DYNAFRAME™ CF DEPLOYMENT SYSTEM (FOR TTC)

- Unique two-armed design provides stability and versatility in targeting approach
- Manufactured out of durable carbon-fiber PEEK
- Rigid, robust construction for accurate targeting and screw placement
- Radiolucent to permit radiographic visualization



DYNANAIL TARGETING FRAME (FOR MINI & HYBRID)

- Manufactured out of durable carbon-fiber PEEK
- Rigid, robust construction for accurate targeting and screw placement
- Radiolucent to permit radiographic visualization



WHAT OUR SURGEONS SAY...



"The DynaNail® is an unrivaled orthopaedic device and my implant of choice for hindfoot arthrodeses. No other hindfoot fusion device allows for intra-operative compression and accounts for post-operative bone resorption by maintaining active compression. It's amazing to 'see' the DynaNail at work!"

SAMUEL ADAMS, MD
Durham, NC



"We are seeing expanding indications for NiTiNOL and continuous compression in foot and ankle surgery because it works! The Enovis DynaNail line provides me with great options to care for my patients. From utilizing the Helix for my MIS Zadek and Calcaneal Osteotomies, Hybrid for Subtalar fusions, Hybrid and Mini for Charcot reconstructions, and DynaNail TTC for TTC fusions, the breadth of products can be utilized all around the foot and ankle with great results."

TYLER GONZALEZ, MD
Lexington, SC



"It's hard to get compression and keep it, but NiTiNOL does just that! Placing a stable construct that combines the benefits of a screw and rod, with dynamic, sustained compression lets me dial in joint pressure... and works while I sleep!"

VYTAUTAS RINGUS, MD
Norman, OK



"I believe in the concept of sustained dynamic compression to achieve bony fusion. With our studies here in Idaho, an earlier generation IM nail for tibiotalarcalcaneal arthrodesis yielded a combined fusion rate for the ankle and subtalar joints of 65%. The Dynanail with its NiTiNOL compressive element is showing a combined fusion rate of 93%. Any reduction in the numbers of nonunions is a victory in my book."

CHRISTOPHER HIROSE, MD
Boise, ID

ORDERING INFORMATION

DYNANAIL® IMPLANTS

PART #	DESCRIPTION
1200-01-1022	DYNANAIL, 10 MM X 22 CM
1200-01-1222	DYNANAIL, 12 MM X 22 CM
1200-01-1026	DYNANAIL XL, 10 MM X 26 CM
1200-01-1226	DYNANAIL XL, 12 MM X 26 CM
1200-01-1030	DYNANAIL XL, 10 MM X 30 CM
1200-01-1230	DYNANAIL XL, 12 MM X 30 CM
1200-02-5020	HEADED CORTICAL SCREW, 5.0 MM X 20 MM
1200-02-5022	HEADED CORTICAL SCREW, 5.0 MM X 22.5 MM
1200-02-5025	HEADED CORTICAL SCREW, 5.0 MM X 25 MM
1200-02-5027	HEADED CORTICAL SCREW, 5.0 MM X 27.5 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
1200-03-5060	HEADLESS PA 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
1200-04-0000	ENDCAP

DYNANAIL® SINGLE USE INSTRUMENTS

PART #	DESCRIPTION
2200-09-0040	4 MM DRILL
2200-18-4031	TROCAR TIPPED GUIDEWIRE (3.1 MM x 400 MM)
2200-18-5031	BEAD TIPPED GUIDEWIRE (3.1 MM x 500 MM)
2200-19-0020	STEINMAN PINS, 2 MM X 9"
2201-09-0025	2.5 MM X 15 CM DRILL
2201-09-0040	4 MM X 15 CM DRILL

DYNANAIL HYBRID™ IMPLANTS

PART #	DESCRIPTION
2601-00-7060	DYNANAIL HYBRID, 7 MM X 60 MM
2601-00-7070	DYNANAIL HYBRID, 7 MM X 70 MM
2601-00-7080	DYNANAIL HYBRID, 7 MM X 80 MM
2601-00-7090	DYNANAIL HYBRID, 7 MM X 90 MM
2601-00-7100	DYNANAIL HYBRID, 7 MM X 100 MM

DYNANAIL MINI® & DYNANAIL HYBRID™ SINGLE-USE INSTRUMENTS

PART #	DESCRIPTION
2200-19-0020	STEINMANN PIN, 2 MM x 9"
2201-09-0025	2.5 MM x 6" DRILL
2900-03-0400	TRANSVERSE SCREW DRILL, 4 MM, STEPPED
2900-04-0229	GUIDEWIRE, 2.4 MM x 229 MM
2900-16-050	CANNULATED DRILL, 5.0 MM
2900-16-070	CANNULATED DRILL, 7.0 MM
2900-16-075	CANNULATED DRILL, 7.5 MM
2900-16-080	CANNULATED DRILL, 8.0 MM
2900-16-085	CANNULATED DRILL, 8.5 MM
2901-01-0075	CANNULATED STEP DRILL, 7.5 MM

DYNANAIL MINI® IMPLANTS

PART #	DESCRIPTION
2600-00-7060	DYNANAIL MINI 7 MM x 60 MM
2600-00-7070	DYNANAIL MINI 7 MM x 70 MM
2600-00-7080	DYNANAIL MINI 7 MM x 80 MM
2600-00-7090	DYNANAIL MINI 7 MM x 90 MM
2600-00-7100	DYNANAIL MINI 7 MM x 100 MM
2600-00-7110	DYNANAIL MINI, 7 MM x 110 MM
2600-00-7120	DYNANAIL MINI, 7 MM x 120 MM
2600-00-7130	DYNANAIL MINI, 7 MM x 130 MM
2600-00-7140	DYNANAIL MINI, 7 MM x 140 MM
2600-03-4314	HEADLESS SCREW, 4 MM x 14 MM
2600-03-4316	HEADLESS SCREW, 4 MM x 16 MM
2600-03-4318	HEADLESS SCREW, 4 MM x 18 MM
2600-03-4320	HEADLESS SCREW, 4 MM x 20 MM
2600-04-4322	HEADLESS SCREW, 4 MM x 22 MM
2600-04-4324	HEADLESS SCREW, 4 MM x 24 MM
2600-04-4326	HEADLESS SCREW, 4 MM x 26 MM
2600-04-4328	HEADLESS SCREW, 4 MM x 28 MM
2600-04-4330	HEADLESS SCREW, 4 MM x 30 MM
2600-04-4332	HEADLESS SCREW, 4 MM x 32 MM
2600-04-4334	HEADLESS SCREW, 4 MM x 34 MM
2600-04-4336	HEADLESS SCREW, 4 MM x 36 MM
2600-04-4338	HEADLESS SCREW, 4 MM x 38 MM
2600-04-4340	HEADLESS SCREW, 4 MM x 40 MM
2600-05-0003	END CAP, +3MM OFFSET
2600-05-0006	END CAP, +6MM OFFSET

DYNANAIL HELIX™ IMPLANTS

PART #	DESCRIPTION
3200-00-7050	Ø7 MM x 50 MM, HEADED FUSION NAIL
3200-00-7055	Ø7 MM x 55 MM, HEADED FUSION NAIL
3200-00-7060	Ø7 MM x 60 MM, HEADED FUSION NAIL
3200-00-7065	Ø7 MM x 65 MM, HEADED FUSION NAIL
3200-00-7070	Ø7 MM x 70 MM, HEADED FUSION NAIL
3200-00-7075	Ø7 MM x 75 MM, HEADED FUSION NAIL
3200-00-7080	Ø7 MM x 80 MM, HEADED FUSION NAIL
3200-00-7085	Ø7 MM x 85 MM, HEADED FUSION NAIL
3200-00-7090	Ø7 MM x 90 MM, HEADED FUSION NAIL
3200-00-7095	Ø7 MM x 95 MM, HEADED FUSION NAIL
3200-00-7100	Ø7 MM x 100 MM, HEADED FUSION NAIL
3200-01-7050	Ø7 MM x 50 MM, HEADLESS FUSION NAIL
3200-01-7055	Ø7 MM x 55 MM, HEADLESS FUSION NAIL
3200-01-7060	Ø7 MM x 60 MM, HEADLESS FUSION NAIL
3200-01-7065	Ø7 MM x 65 MM, HEADLESS FUSION NAIL
3200-01-7070	Ø7 MM x 70 MM, HEADLESS FUSION NAIL
3200-01-7075	Ø7 MM x 75 MM, HEADLESS FUSION NAIL
3200-01-7080	Ø7 MM x 80 MM, HEADLESS FUSION NAIL
3200-01-7085	Ø7 MM x 85 MM, HEADLESS FUSION NAIL
3200-01-7090	Ø7 MM x 90 MM, HEADLESS FUSION NAIL
3200-01-7095	Ø7 MM x 95 MM, HEADLESS FUSION NAIL
3200-01-7100	Ø7 MM x 100 MM, HEADLESS FUSION NAIL

DYNANAIL HELIX™ SINGLE-USE INSTRUMENTS

PART #	DESCRIPTION
2900-04-0229	GUIDEWIRE, 2.4 MM x 229 MM
3100-01-0005	5.0 MM DRILL
3100-01-0007	PROFILE DRILL, 6.5 MM
3100-04-0001	TRAJECTORY WIRE, 1.0 x 260 MM
2201-09-0025	2.5 MM DRILL

REFERENCES

1. Kildow BJ, Gross CE, Adams SB, Parekh SG. Measurement of NiTiNOL Recovery Distance Using Pseudoelastic Intramedullary Nail in Tibiotalocalcaneal Arthrodesis. *Foot Ankle Spec* 2016; 9(6): 494-499.
2. Data on File. Medshape, Inc., 2020.
3. Wong G, et al. ORS Annual Meeting, 2021 [Podium].
4. Yakacki CM, Gall K, Dirschl DR, Pacaccio DJ. Pseudoelastic intramedullary nailing for tibio-talo-calcaneal arthrodesis. *Expert Rev Med Devices* 2011; 8(2): 159-66.
5. Hsu AR, Ellington JK, Adams SB, Jr. Tibiotalocalcaneal Arthrodesis Using a NiTiNOL Intramedullary Hindfoot Nail. *Foot Ankle Spec* 2015; 8(5): 389-96.
6. Ford SE, Kwon JY, Ellington K. Tibiotalocalcaneal Arthrodesis Utilizing a Titanium Intramedullary Nail With an Internal Pseudoelastic Nitinol Compression Element: A Retrospective Case Series of 33 Patients. *J Foot Ankle Surg*, 2019. 58(2): 266-272.

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