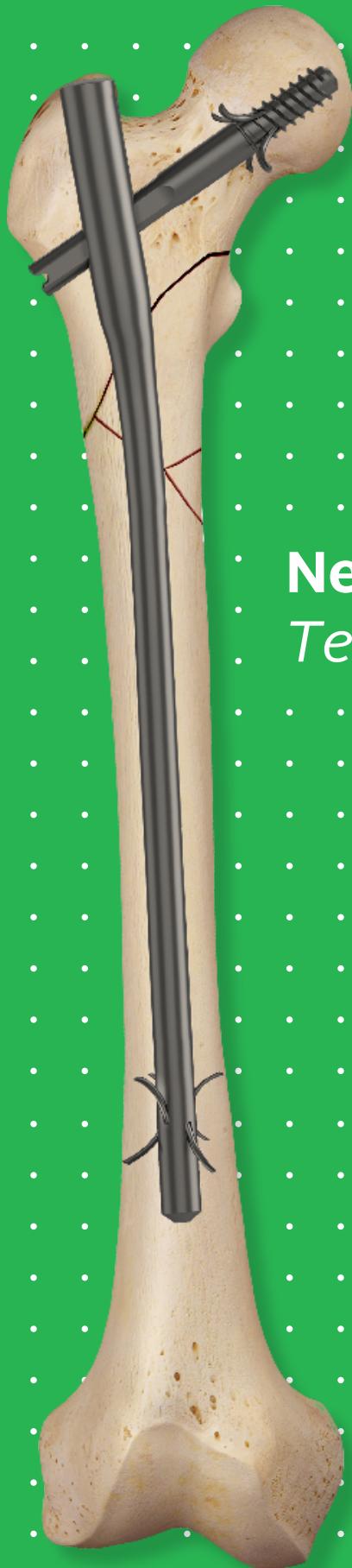




Neon Proximal Femoral Nail *Technical Data Sheet*

Claw Technology

Dunitech leads innovational systems and aims to supply options for the surgeons to excel at their expertise. Claws are a novelty solution on distal locking systems designed to support the orthopedic trauma community.

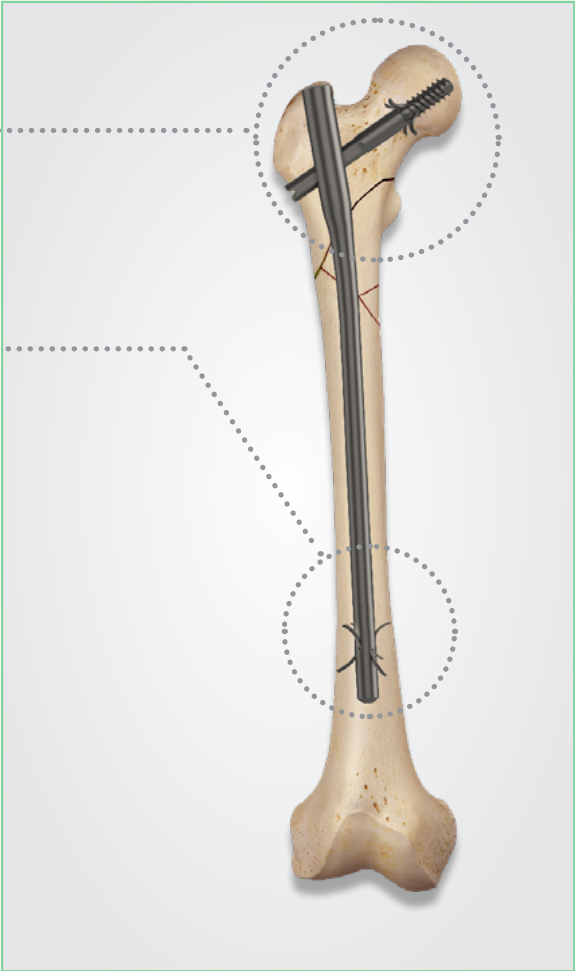
Claws are titanium pins that act as anchors to provide a stable fixation, as well as other superior operative parameters.

- ✓ *Claws are made from titanium and mechanically deploy from within the nail.*
- ✓ *Claws penetrate through the cancellous bone and anchor in the cortical bone.*

We focus on operative parameters that are vital for the success of the fracture treatment.

Dunitech’s innovative devices allow healthcare professionals to reduce surgical time as well as the risk of pre- and postoperative complications.

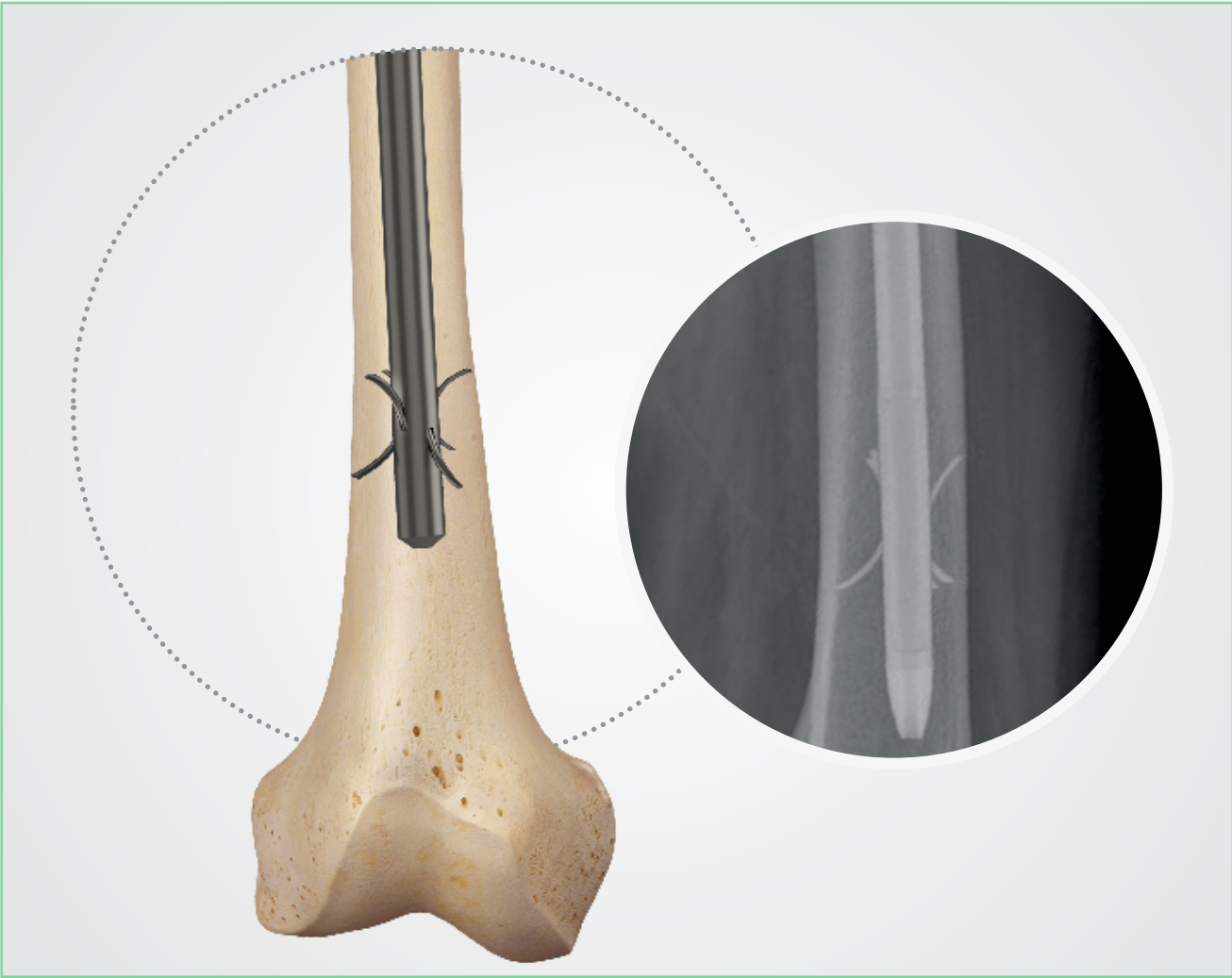
By eliminating the distal incisions, the Claws significantly reduce radiation exposure and blood loss.



- ✓ **Increased stability**
- ✓ **Shorter operative time**
- ✓ **Lower radiation exposure**
- ✓ **Fewer incisions**
- ✓ **Easy revision**
- ✓ **No free-hand locking**
- ✓ **Less bone removal**

Get Better Stability!

Six retractable Claws are designed to penetrate the cortex and provide exceptional axial and rotational stability.



Less Radiation Exposure

Claws significantly reduce the radiation exposure of the team in the operating room by avoiding the need of targeting the distal hole, reaming and inserting a screw for distal locking.^{1,2}

Fewer Incisions

The nail is anchored by the Claws deployed from within the medullary canal. By avoiding extra incision, there will be fewer surgical scars, lower blood loss and shorter operative time while lowering the risk of infection.²

1. Çamurcu Y, Sofu H, Issin A, Koçkara N, Genç E, Çetinkaya M. Is talon tibial intramedullary nailing clinically superior compared to conventional locked nailing? Eklem Hastalik Cerrahisi. 2017 Dec;28(3):152-7.
2. Zehir S, Şahin E, Zehir R. Comparison of clinical outcomes with three different intramedullary nailing devices in the treatment of unstable trochanteric fractures. Ulus Travma Acil Cerrahi Derg 2015, Vol. 21, No. 6.

Neon Proximal Femoral Nail Specifications

NEON KEY FIGURES

- Proximal Diameter: 15.5 mm
- Distal Diameter: 11 mm
- Distal Claws Maximum Span: 38 mm
- Medial-Lateral Angle: 4°
- End Cap Length: 0 mm, 5 mm and 10 mm
- Fully Cannulated Body: Compatible with guide wire
- Lag Screw Locking System: Set Screw integrated into the nail. Designed for fixed or sliding configuration while preventing rotation.
- Lag Screw Angle: 120°, 125° and 130°
- Material: Titanium alloy with anodized type II surface treatment.

NEON SHORT FIGURES

- Length: 220 mm

NEON LONG FIGURES

- Length: 300 mm to 420 mm in 20 mm increments
- Anteversion: 10°
- Curvature Radius: 2 m

LAG SCREW'S KEY FIGURES

- Length: 70 mm to 120 mm in 5 mm
- Thread Diameter: 11 mm
- Compression Range: 15 mm
- Claw Lag Screw Maximum span: 28 mm to anchor the Lag Screw in the cortical bone.
- End cap: Flush



Neon Proximal Femoral Nail Indications

INDICATIONS

- Intertrochanteric fractures
- Stable and unstable pertrochanteric fractures
- High subtrochanteric fractures without shaft extension
- Low subtrochanteric fractures (Neon Long Nails only)
- Osteoporotic fractures
- Pathologic/impending pathologic fractures
- Malunions/nonunions

PRECAUTIONS

Neon Proximal Femoral nails and accessories were not evaluated for safety and compatibility in the magnetic resonance (MR) environment and no tests for heating or migration were conducted for those products in MR environment.

CONTRAINDICATIONS

- Fractures of the distal third
- Femoral neck fractures

The following conditions may present an increased risk of implant failure. This list is not meant to be comprehensive. Physicians should use their clinical judgement when determining the appropriate implant and approach for a given patient.

- Infection
- Incomplete fusion of the epiphysis
- Cognitive and/or physical impairment that would lead to unacceptable risk of fixation failure
- Metal sensitivity or allergic reaction to foreign bodies
- Loss of bone stock or insufficient bone quality to support the device
- Obliterated or narrow medullary canal
- Obese patients
- In the same region as a pre-implanted screw plate
- In comminuted and/or intraarticular fractures
- In open fractures with inadequate soft tissue cover and/or with associated arterial injury

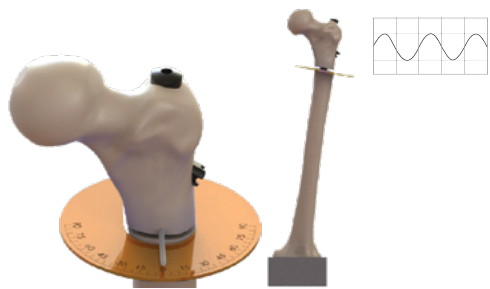


Claws in Action

Claws are reliably retractable!

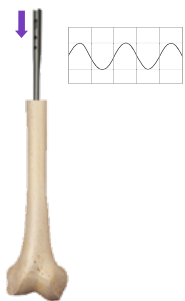
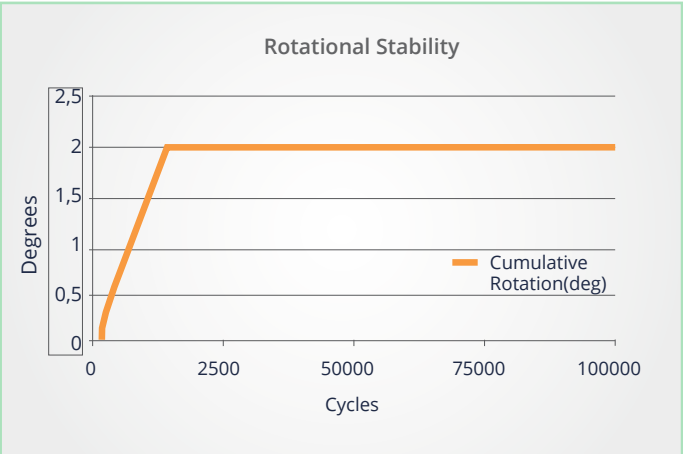
All Claws were **successfully retracted** after every test.

Conventional systems are subjected to screw breakage, screw headwear and drill bit breakage that may prevent the nail to be removed. Dunitech Claws are deployed within the nails from precise holes in a tight fit, preventing empty spaces for bone ingrowth.



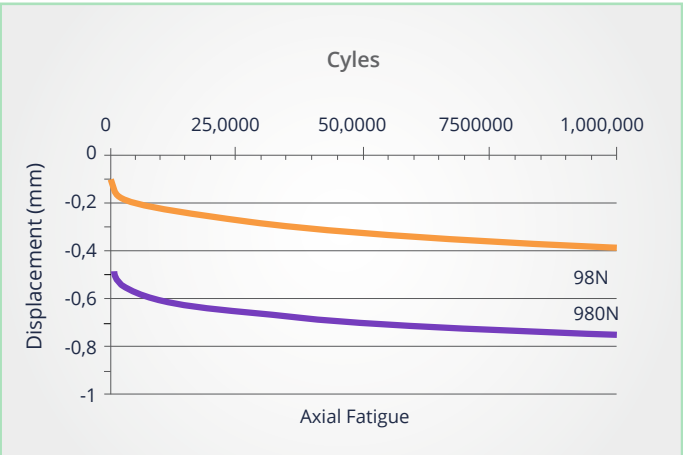
Rotational Stability

In unstable subtrochanteric fractures Claws provide superior rotational stability. After 10,000 cycles, the nail settled in and remained fixed until 100,000 cycles.



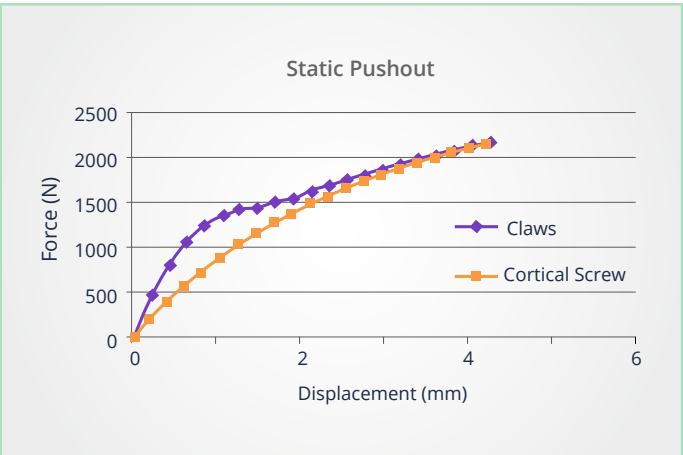
Claw's Axial Fatigue Strength

The average displacement observed at 1 million cycles was 0.74 mm.



Claw's Axial Static Strength

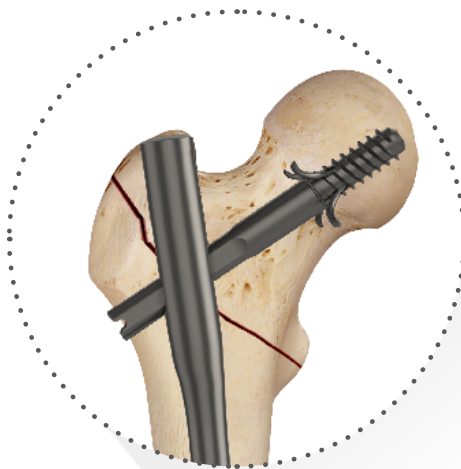
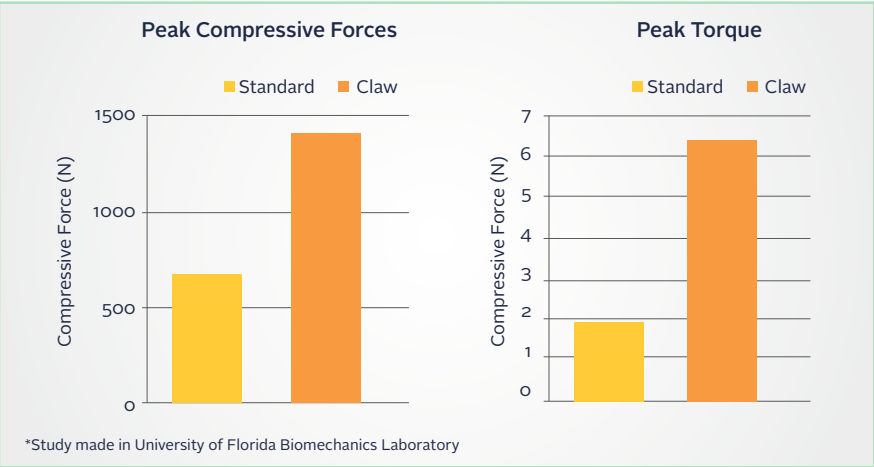
Claws resist to a higher force for a given displacement, compared to conventional stainless steel screws.



Lag Screw with Claw Technology



Four retractable Claws anchor the lag screw into the dense cortical bone of the femoral head-neck junction for superior control.



Rotational Stability

When deployed, the Claws' span is more than twice the diameter of the lag screw alone. The engagement of the Claws within the cortical bone at the junction between femoral head and neck leads to a three-time increase in the rotational resistance when compared to conventional screws.¹

Lag Screw Cut-out

Neon's lag screw is equipped with Claw technology. The Claws anchor the Lag Screw into the cortical bone granting a stronger fixation, preventing relative movement and reducing the risk of cut-out.²

Compression

Due to the increased purchase into the cortical bone, the lag screws present two times more compression forces than conventional screws.¹

1. Bramlet D, Wheeler D. Biomechanical evaluation of a new type of hip compression screw with retractable Claws. J Orthop Trauma 2003, 17:618-624.
2. Zehir S, Şahin E, Zehir R. Comparison of clinical outcomes with three different intramedullary nailing devices in the treatment of unstable trochanteric fractures. Ulus Travma Acil Cerrahi Derg 2015, Vol. 21, No. 6.



Neon Proximal Femoral Nail, Short

Angle	Lenght (mm)	Catalogue Code
120°	220	NEON-120-220
125°	220	NEON-125-220
130°	220	NEON-130-220



Neon Proximal Femoral Nail, Long

Angle	Lenght (mm)	Catalogue Code	Catalogue Code
		Left	Right
125°	300	NEON-125-30L	NEON-125-30R
125°	320	NEON-125-32L	NEON-125-32R
125°	340	NEON-125-34L	NEON-125-34R
125°	360	NEON-125-36L	NEON-125-36R
125°	380	NEON-125-38L	NEON-125-38R
125°	400	NEON-125-40L	NEON-125-40R
125°	420	NEON-125-42L	NEON-125-42R



Nail End Caps

Extension (mm)	Catalogue Code
0 (flush)	NEON-155-000
5	NEON-155-005
10	NEON-155-010



Lag Screws

Extension (mm)	Catalogue Code
70	DCLS-011-070
75	DCLS-011-075
80	DCLS-011-080
85	DCLS-011-085
90	DCLS-011-090
95	DCLS-011-095
100	DCLS-011-100
105	DCLS-011-105
110	DCLS-011-110
115	DCLS-011-115
120	DCLS-011-120



Lag Screw End Cap

Extension (mm)	Catalogue Code
0 (flush)	DCLS-07-010

Note

✓ The pictures of the implants shown in this section are not to scale.

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