CentroNail is a Complete Intramedullary Nailing System

TARGETING YOUR NEEDS
THE CENTRONAIL NAILING SYSTEM

The CentroNail family utilises nail-connected distal targeting which is accurate in all anatomical sites and minimises fluoroscopy time. The system is colour coded and the instrumentation is universal, all to increase ease of use and decrease inventory.

- **Ease of use**: Colour coded systems
- **Reduced Inventory**: Universal instruments
- **Versatile**: Multiple proximal and distal locking options
- **Nail Connected Distal Targeting**: Accurate screw insertion and reduced X-ray exposure
- **Titanium Nails and Locking Screws**

TARGETING YOUR NEEDS
A versatile universal nail with multiple locking options to treat femoral fractures

- One design for left and right femur

- Antegrad and retrograde insertion
- 2500 mm radius matches the average femoral procurvatum

Antegrade
Diaphyseal fractures

Retrograde
Pregnancy
Pre-existing proximal femoral implants
Polytrauma
Bilateral femoral fractures

Reconstruction
Neck and diaphyseal fractures
Petrochanteric fractures
Subtrochanteric fractures

Oblique
Subtrochanteric fractures
Shaft fractures
FEMORAL NAILING SYSTEM

Pre-operative

If required, the jig position can be checked radiologically by aligning the two metal rings in the jig (a) with the nail (b,c)

1 Week FU

Closed Femoral Fracture

10 Months FU

14 Months FU

Distal Targeting

6 Months FU

10 Months FU

Case studies provided by
Wolfgang Klein, MD
Wolfsburg, Germany
SUPRACONDYLAR & RETROGRADE NAILING SYSTEM

- One design for left or right femur
- 2500 mm radius matches the average femoral procurvatum
- Shortest supracondylar nail available, lengths from 130 mm to 375 mm
- 10° distal bend accommodates anatomy
- Multiple distal locking options in different planes

Indicated for supracondylar fractures with diaphyseal extension

Centronail Supracondylar and Retrograde Specific Instruments Box

Indicated for inter- and supra-condylar fractures
FEMORAL APPLICATION

- 63-Year-Old Male • Pathological fracture (secondary from renal cancer)

Pre-operative

Post-operative

FEMORAL APPLICATION

- 73-Year-Old Female • Closed supracondylar fracture

Pre-operative

Drill result of previous surgery

Post-operative

4 Months FU

Clinical at 4 Months FU

Case studies provided by Wolfgang Klein, MD Wolfsburg, Germany
- Multiple locking options extend nailing indications
- Nail and screw design provide good fatigue resistance
- Addresses anatomic needs of fracture fixation
- Position of distal locking screw at 5 mm from nail tip allows to head very distal tibial fractures.

Centronail Tibial Specific Instruments Box

For proximal fractures, 2 additional fully threaded locking screws can be used for extra stability.
TIBIAL APPLICATION
- 53-Year-Old Female • AO 42-B1.2 Closed Fracture
- Single Injury

Pre-operative
4.5 Months FU. Fracture healed

Case studies provided by
Wolfgang Klein, MD
Wolfsburg, Germany

TIBIAL APPLICATION
- 43-Year-Old Male • Closed AO 42-B1.2 plus ankle fracture • Tibial nail and distal fibular plate
- Note posterior Volkmann’s triangle fixed by one fully threaded locking screw and an additional lag screw

Pre-operative
Post-operative
18 Months FU
HUMERAL NAILING SYSTEM

- One design for left or right humerus
- Proximal bend 15°
- Proximal Humeral Nail: Short (150 mm and Long (185-320 mm, in 15 mm increments). Antegrade insertion only
- Diaphyseal Humeral Nail: antegrade and retrograde insertion

Centronail Humeral Complete Instruments Box
(includes also general instruments required)
PROXIMAL HUMERAL APPLICATION*
- 74-Year-Old Female • Referred from other centre after 1 month

Pre-operative  Post-operative  3 weeks FU  12 weeks FU

HUMERAL DIAPHYSEAL APPLICATION ANTEGRADE*
- 30-Year-Old Female

Pre-operative  Post-operative  4 weeks FU  12 weeks FU

HUMERAL DIAPHYSEAL APPLICATION RETROGRADE**
- 46-Year-Old Male

Pre-operative  Post-operative  Post-operative  40 days FU  40 days FU

** Case study provided by Rinaldo Giancola, M.D., Milan, Italy
**SPECIFICATIONS**

**FEMORAL NAIL**
- Length from 275 to 475 mm, in 25 mm increments

**TIBIAL NAIL**
- Length from 130 to 375 mm, in 25 mm increments

**HUMERAL NAIL**
- Length from 275 to 475 mm, in 25 mm increments with 2500 mm radius curve

**SUPRACONDYLAR NAIL**
- Length from 130 to 375 mm, in 25 mm increments

**Proximal Short**
- Length 150 mm

**Proximal Long**
- Length from 185 to 320 mm, in 15 mm increments

**Diaphyseal**
- Length from 185 to 320 mm, in 15 mm increments
THE CENTRONAIL SYSTEM PROVIDES A COMPLETE NAILING SYSTEM IN ONLY SIX BOXES

4 nail specific boxes, 1 general instruments box and 1 extraction box
**CentroNail Locking Screw 4.8 mm**

**Major Competitor Threaded Locking Screw 5 mm**

**CentroNail 4.8 mm Locking Screw Strength**

- Reverse thread on screw head for easy screw removal
- Conical tip helps insertion
- Threaded portion of the locking screw provides strong fixation in proximal cortex
- Peg design provides increased fatigue resistance

**DESIGN OF THE ORTHOFIX LOCKING SCREW PROVIDES GREATER BIOMECHANICAL STRENGTH**

**CentroNail 4.8 mm Locking Screw Strength**

<table>
<thead>
<tr>
<th>Stiffness K [N/mm]</th>
<th>Yield Strength Fy[N]</th>
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<td>&gt;80%</td>
<td>&gt;95%</td>
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*Orthofix Bench Testing, Data on File, Orthofix Inc.*