

**PediFlex
Elastic Stable
Intramedullary Nails
Surgical Technique**



PediFlex



THE PEDIFLEX

The PediFlex offers a simple fixation by using two curved nails. The nails are introduced into the medullary canal in such a way as to create an elastic fixation that resists deformity.

The PediFlex has the advantage of a closed operative technique. The nails are implanted above and below the growth plates, significantly reducing disruption to growth. Early functional recovery can be expected, generally without plaster immobilization, resulting in a shorter hospital stay.



INDICATIONS

Femoral Fractures: Recommended age – 6 to 14 years

Forearm Fractures: Recommended age – over 8 years to adolescence

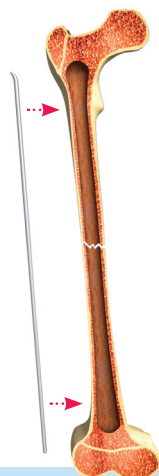
RANGE

- Six different diameters marked for easy identification
- Three nail lengths
- Manufactured in Titanium (ELI-TA6V) ELI (Extra Low Impurities) and Stainless Steel (316)

Pedi **Flex**™

1

Nail Size

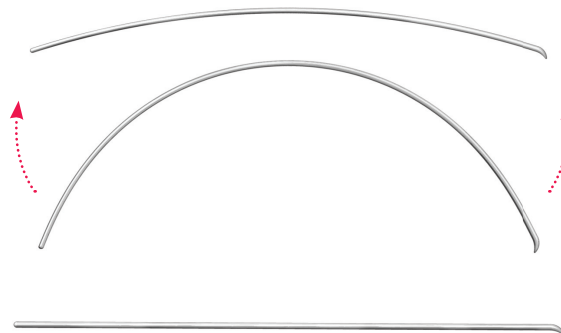


Position the patient on the fracture table using the correct shoe size boot. Reduce the fracture. Measure the narrowest diameter of the medullary canal with a ruler. The proper nail diameter is no more than forty percent of the width of the canal. Select two nails of the same diameter so the opposing bending forces are equal, avoiding malalignment.

TIP: *It may help to identify the growth plate by marking the skin with a surgical marking pen.*

2

Bending The Nails



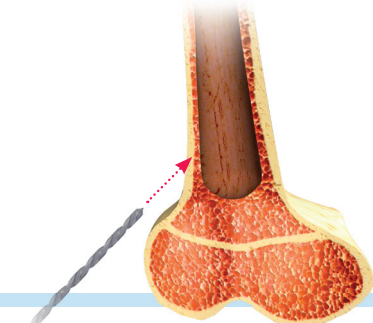
Select two nails of the same diameter so the opposing bending forces are equal, avoiding malalignment.

Bend both nails by approximately 30 degrees ensuring the maximum part of the curvature is at the level of the fracture.

The curvatures of both nails must be the same.

3

Skin Incision & Entry Hole



You can start either side. Make the skin incision distal to the entry hole. The medial and lateral entry holes must be level with one another.

Select the next largest drill bit relative to the diameter of the nail. Use the Double Drill Sleeve to protect the soft tissues. Start the drill bit perpendicular to the bone surface, 2.0 cm above the growth plate. Check the drill bit position with fluoroscopy. Penetrate the near cortex with the drill bit and with the drill bit rotating, but not advancing, slowly lower the drill to a 45 degree angle relative to the shaft axis. Now advance the drill bit at this angle until it reaches the medullary canal. This will aid the passage of the nail.

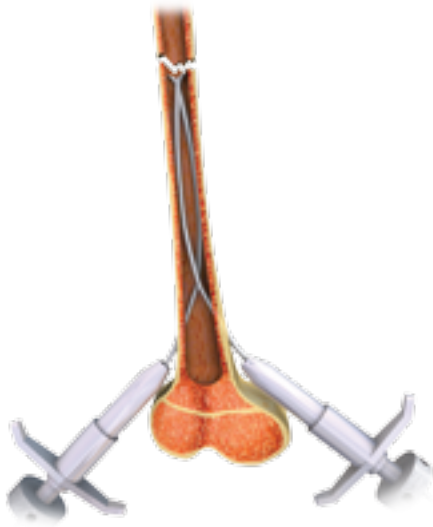
4

Passing The First Nail



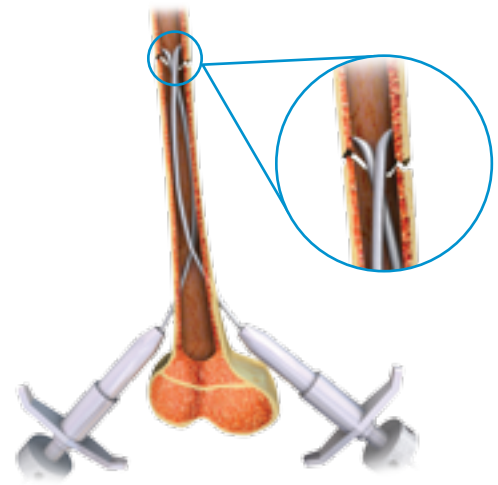
Put the introducer onto the nail passing it as far as possible. Pass the nail into the medullary canal and move up the canal by rotating the introducer back and forth. Stop at the fracture.

TIP: *If the nail will not pass by hand or with light taps of the mallet, the diameter of the nail is too big and needs to be changed to a smaller diameter.*

5**Passing The Second Nail**

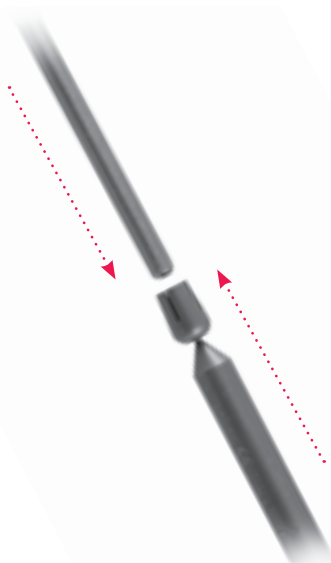
Pass the second nail using the same technique as for the first nail.

Also stop at the fracture site.

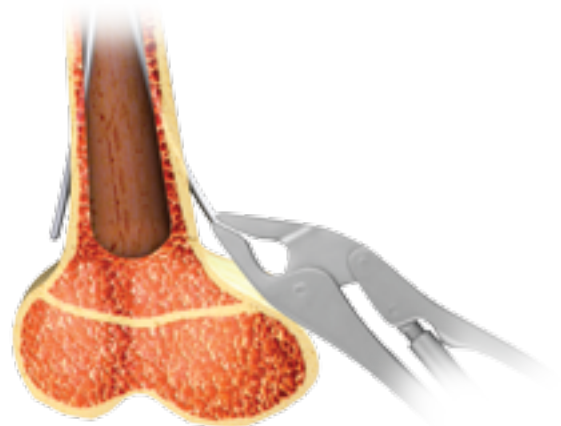
6**Passing The Nails Across The Fracture Site**

Reduce the fracture and lightly tap both nails across into the opposite fragment.

Continue to pass the nails as far as possible with the introducer.

9**Insert End Caps**

End caps are provided in pairs. The end cap is inserted over the external portion of the elastic nail and, once in place, snapped off the cap handle. This is to prevent soft tissue irritation and to facilitate extraction of the nail.

10**Extraction**

Removal of the nails should be undertaken between 3 to 5 months post-op providing the x-rays are satisfactory.

The nails are removed by applying the extractor to the part of the nail or end cap lying outside the cortex. Assemble the slap hammer to the extractor. Grasp the nail and or cap with the extractor and remove.

7

Final Impaction



Remove the introducer and finally impact the nail with the impactor leaving approximately 2cm of the nail outside the cortex. Use the nail cutter to cut to desired length.

8

Final Position



The curved tip of the lateral nail should be positioned toward the greater trochanter and the medial nail pointing toward the lesser trochanter.

Forearm Fractures



The nail diameters are normally between 2.0 mm and 3.0 mm, depending upon patient anatomy. One nail must be inserted into each bone. Both nails must be pre-curved.

Entry holes: Radius – distal metaphysis avoiding the growth plate, radial nerve and extensor tendon. Ulna – proximal lateral surface avoiding the growth plate.

Plaster immobilization is unnecessary. The fracture may be slow to unite, removal is therefore recommended at around 8 months.

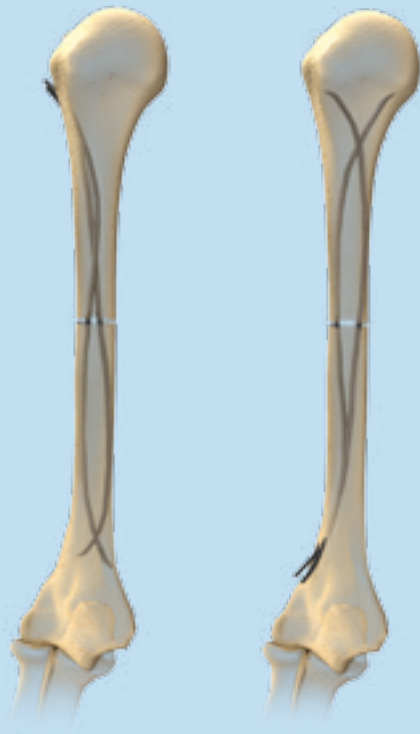
Tibial Fractures



Typically two nails are inserted antegrade from entry points a few centimeters distal to the physis at anterolateral and anteromedial locations minimizing soft tissue disruption. The nail diameters are normally between 2.5mm and 4.0mm, depending on patient anatomy.

NOTE: *Before fully setting the nails into the distal metaphysis be sure to properly align the tibia in rotation and along its longitudinal axis.*

Humeral Fractures



Typically two nails are required for humeral fractures inserted either retrograde from a posterior site or antegrade located laterally at the level of the deltoid muscle attachment. The nail diameters are normally between 2.5 mm and 3.5 mm, depending upon patient anatomy.

Note: *Locate the radial nerve prior to implantation of the nail.*



PROD #	QTY	PRODUCT
00-1000-015	4	1.5mm PediFlex Nail Ti
00-1000-020	4	2.0mm PediFlex Nail Ti
00-1000-025	4	2.5mm PediFlex Nail Ti
00-1000-030	4	3.0mm PediFlex Nail Ti
00-1000-035	4	3.5mm PediFlex Nail Ti
00-1000-040	4	4.0mm PediFlex Nail Ti
00-1000-045	4	4.5mm PediFlex Nail Ti
00-1000-115	2	1.5mm PediFlex Nail Cap
00-1000-120	2	2.0mm PediFlex Nail Cap
00-1000-125	2	2.5mm PediFlex Nail Cap
00-1000-130	2	3.0mm PediFlex Nail Cap
00-1000-135	2	3.5mm PediFlex Nail Cap
00-1000-140	2	4.0mm PediFlex Nail Cap
00-1000-145	2	4.5mm PediFlex Nail Cap

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PROD #	QTY	PRODUCT
00-1000-315	4	1.5mm PediFlex Nail SS
00-1000-320	4	2.0mm PediFlex Nail SS
00-1000-325	4	2.5mm PediFlex Nail SS
00-1000-330	4	3.0mm PediFlex Nail SS
00-1000-335	4	3.5mm PediFlex Nail SS
00-1000-340	4	4.0mm PediFlex Nail SS

PROD #	QTY	PRODUCT
01-1000-001	1	Nail Introducer
00-1000-002	1	Introducer Tommy Bar
01-1000-003	1	Extractor
01-1000-004	1	Sliding Mass /Slap Hammer
01-1000-006	1	1.5, 2.0 & 2.5mm Small Punch
01-1000-007	1	3.0, 3.5, 4.0, & 4.5mm Large Punch
01-1000-008	1	2.7/ 2.0mm Double Drill Guide
01-1000-009	2	2.7mm Drill Bit
01-1000-010	2	3.2mm Drill Bit
01-1000-011	2	4.5mm Drill Bit
01-1000-012	1	4.5/3.2mm Double Drill Guide
01-1000-013	1	PediFlex Nail Cutter
01-1000-014	2	2.0mm Drill Bit
01-1000-017	1	Bone Awl
01-1000-018	1	Needle Nose Extractor
01-1000-019	1	5mm Beveled Bone Tamp
01-1000-020	1	8mm Beveled Bone Tamp
01-1000-016	1	Small Slotted Mallet



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