

SURGICAL TECHNIQUE

Surgical Technique for Pediatric Forearm Fixation Using Activa IM-Nail™

- Surgeons are advised to review product specific surgical technique, including the implants, the method of application and the surgical procedure, prior to performing the surgery. Use the standards of your hospital in pre-operative care treatment.

PATIENT POSITIONING

- Position the patient supine on a standard operating table with a radiolucent arm board.
- Prepare and drape the affected limb allowing access to the elbow and wrist.

IMPLANT SELECTION

- Measure the smallest diameter of the medullary cavity of the radius and ulna.
- Select the appropriate implant for the indication. Select the implant whose diameter is as close as possible to the smallest diameter of the bone marrow canal.
- Note: For a complete listing of available sizes, please refer to the Ordering Information at the Sales Sheet.

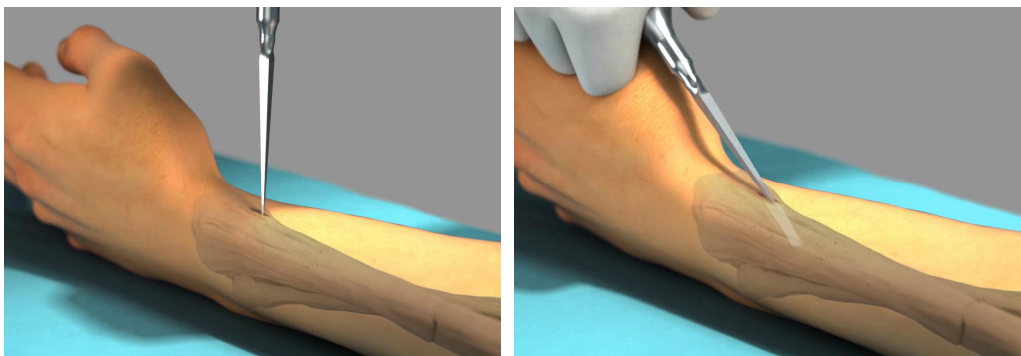
REDUCTION

- The more angulated/displaced bone is, in most cases, first addressed and stabilized.
- If an acceptable reduction cannot be achieved in a closed manner, use an open reduction technique. If possible, a small open incision directly over the fracture site is preferable.

INCISION

Radius

- Make a small longitudinal incision over the dorsolateral metaphyseal surface just proximal to distal physis in the case of retrograde approach. C-arm image can be used to aid.
- Caution: Be attention regarding the dorsal branch of the superficial radial nerve.
- Make an entry portal into the cortical bone using a bone awl or a drill bit; At first, place the awl or drill bit perpendicular to the cortex to make a start for the entry portal and after that slowly lower the awl or drill bit to the slightest possible angle relative to the shaft axis. Now advance the awl or drill bit at this angle until it reaches the medullary canal.

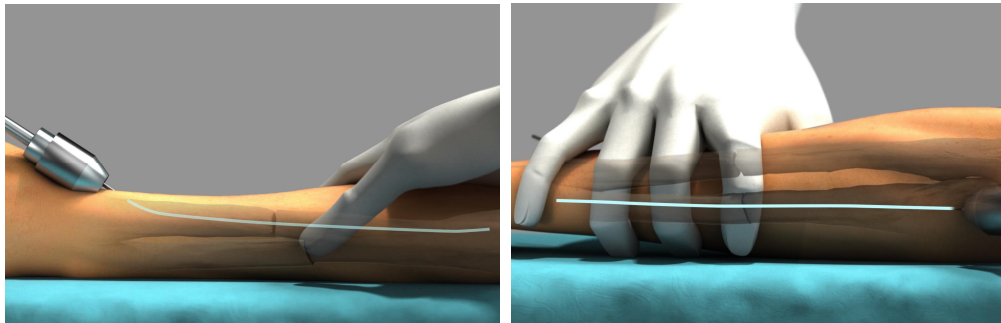


Ulna

- For the antegrade approach make a small longitudinal incision on the radial side of the proximal metaphysis. Avoid, if possible, a middle incision regarding irritations of the skin. C-arm image can be used to aid.
- Make an entry portal into the cortical bone using a bone awl or a drill bit (Please see above).

DILATING

- Dilate medullary cavity through the fracture plane using appropriate dilator for the implant.
- Leave the dilators to bone marrow canals until it is time to insert the bioabsorbable implant. Remove and replace dilators with an implant one by one, if both radius and ulna will be stabilized and aligned with the bioabsorbable implant.

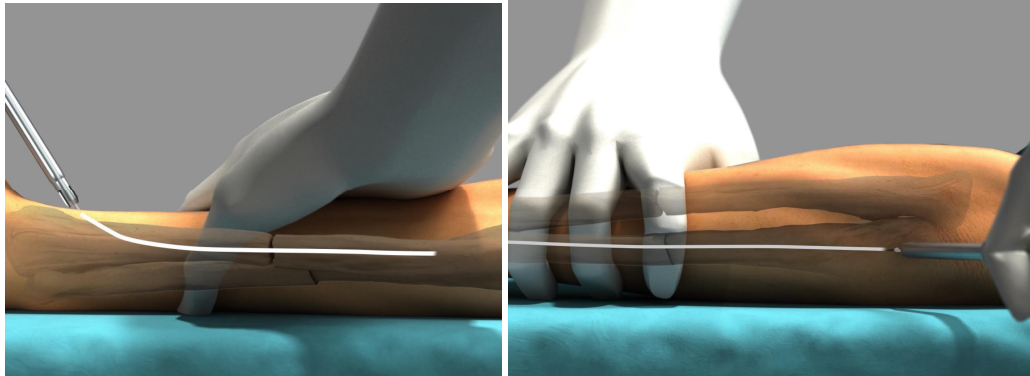


Activa IM-Nail™ diameter (mm)	2.0	2.7	3.2
Dilators	B-INIM-2000	B-INIM-2700	B-INIM-3200

- Caution: If the dilator is bent during the dilating the intramedullary canal, do not straighten the dilator. Attempts to straighten bends may compromise the metallurgical integrity of the metal, and the instrument may subsequently break during use.

NAIL INSERTION

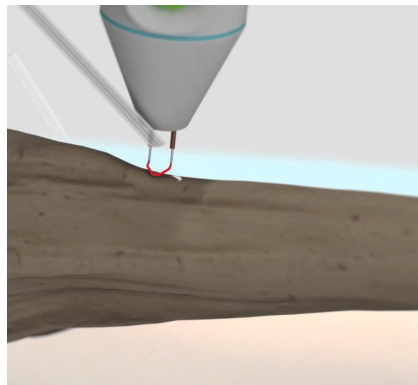
- Insert the implant using the inserter. Insert the nail into the bone marrow canal at first by hand and if resistance is felt, advance the nail lightly tapping the instrument. Do not use rotational movements.



- Insert the Activa IM-Nail™ across the fracture by monitoring the nail position with fluoroscopy. Do not cross the physis. Caution: X-ray positive TCP marker can be seen, but not the implant itself.



- After insertion, cut the implant using scissors, an oscillating saw, or a hot wire. Smooth the proximal end of the implant at least to the cortical level, to avoid soft tissue irritation.



- Close the wound in layers applying standard principles.

IMMOBILIZATION

- Immobilize the forearm by cast using, e.g. above-the-elbow dorsal plaster semicircular cast with volar support for 4-6 weeks with the elbow flexed to 90 degrees.
- Additional appropriate immobilization should be considered by the treating physician.

POSTOPERATIVE CARE

- Sports activities should be limited for 3-6 months, depending on the type of trauma.
- Provide the patient with detailed instructions for postoperative care.
- X-ray control, CT or MRI can be used to evaluate the healing of the tissue. The implant is MR Safe.

Instruments

Product code	Description
B-INIM-2000	Dilator for 2.0mm intramedullary nail
B-INIM-2700	Dilator for 2.7mm intramedullary nail
B-INIM-3200	Dilator for 3.2mm intramedullary nail
B-INIM-4000	Insertor for intramedullary nail

