

RIN

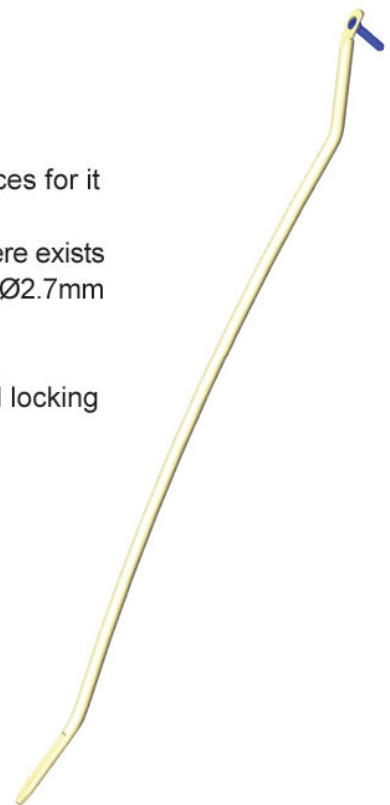
Radius Elastic Anatomic Locking
Intramedullary Nail

Patented



RIN

- Solid
- Round
- Unreamed
- Conical-tipped
- Titanium flexibility and bio-compatibility (TEN)
- 3cm part of the proximal tip is 10 degree anterior angled and oblong.
- Diameter choices for the body part are 3mm, 3.5mm, 4mm; length choices for it are 18cm, 19cm, 20cm, 21cm, 22cm, 23cm, 25cm
- 3cm part on the distal is 15 degree angled to the front, on the distal end there exists one 17 degree angled hole (for distal locking screws) for locking screws of Ø2.7mm
- The body part is parabolic (1cm R)
- The same nail is used for right and left radiuses
- There is no need of usage of Scopy or Guide for the distal and proximal locking
- Having new, ergonomic and simple implantation-locking system
No need a special set for extraction



Indications

In the region covering from 2 cm. distal of the proximal joint surface of the radius to the proximal of the distal radio-ulnar joint ;

- For all radius fractures
- In cases of malunion or non-union (Malunion and pseudoarthrosis)
- For Galeazzi dislocations with fractures
- For Colles fractures (for distal metaphysis fractures having single fracture line that is not being related to radio-ulnar and radio-carpal joint)
- For shortening Osteotomies
- For tumor resections can be used

Proximal locking

The nail provides rotational stabilization automatically owing to its proximal design (When required, stabilization could be increased with Poller Screw or Set screw)

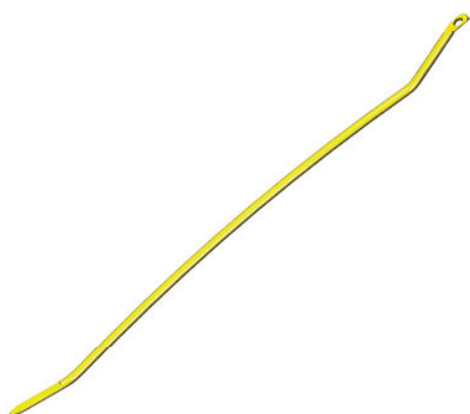


Interlocking is made with one Ø2.7mm screw owing to 17 degree prox-volar angled oblique hole existing on the distal part of the nail

Locking screws have diameter 2.7mm, and they have 7 different length choices as being 18,19,20,21,22,23,25mm, and there is no need for usage of Scopy or Guide for their insertion



Radius Intramedullary Elastic Anatomic Locking Screw



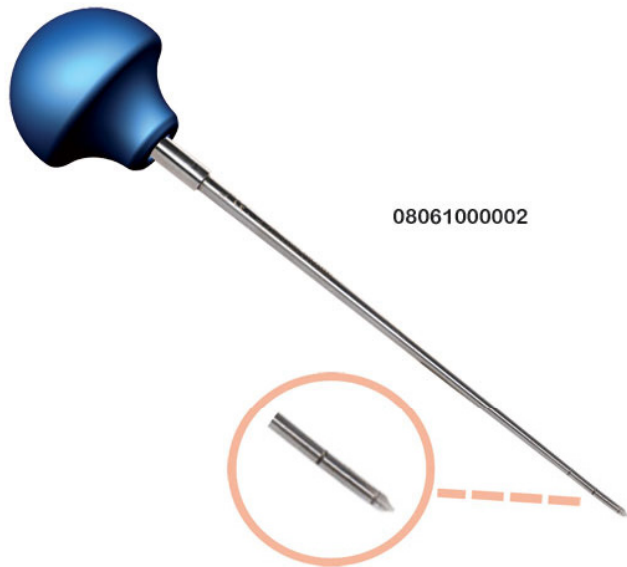
CODE (Ti)	IMPLANT	
80620180300	Radius Intramedullar Lock Elast. Nail Ti	3 x 180 mm
80620190300	Radius Intramedullar Lock Elast. Nail Ti	3 x 190 mm
80620200300	Radius Intramedullar Lock Elast. Nail Ti	3 x 200 mm
80620210300	Radius Intramedullar Lock Elast. Nail Ti	3 x 210 mm
80620220300	Radius Intramedullar Lock Elast. Nail Ti	3 x 220 mm
80620230300	Radius Intramedullar Lock Elast. Nail Ti	3 x 230 mm
80620180350	Radius Intramedullar Lock Elast. Nail Ti	3.5 x 180 mm
80620190350	Radius Intramedullar Lock Elast. Nail Ti	3.5 x 190 mm
80620200350	Radius Intramedullar Lock Elast. Nail Ti	3.5 x 200 mm
80620210350	Radius Intramedullar Lock Elast. Nail Ti	3.5 x 210 mm
80620220350	Radius Intramedullar Lock Elast. Nail Ti	3.5 x 220 mm
80620230350	Radius Intramedullar Lock Elast. Nail Ti	3.5 x 230 mm
80620180400	Radius Intramedullar Lock Elast. Nail Ti	4 x 180 mm
80620190400	Radius Intramedullar Lock Elast. Nail Ti	4 x 190 mm
80620200400	Radius Intramedullar Lock Elast. Nail Ti	4 x 200 mm
80620210400	Radius Intramedullar Lock Elast. Nail Ti	4 x 210 mm
80620220400	Radius Intramedullar Lock Elast. Nail Ti	4 x 220 mm
80620230400	Radius Intramedullar Lock Elast. Nail Ti	4 x 230 mm
80620250400	Radius Intramedullar Lock Elast. Nail Ti	4 x 250 mm

Locking Cortex Screw-Conical Headed, Selftapping Ti

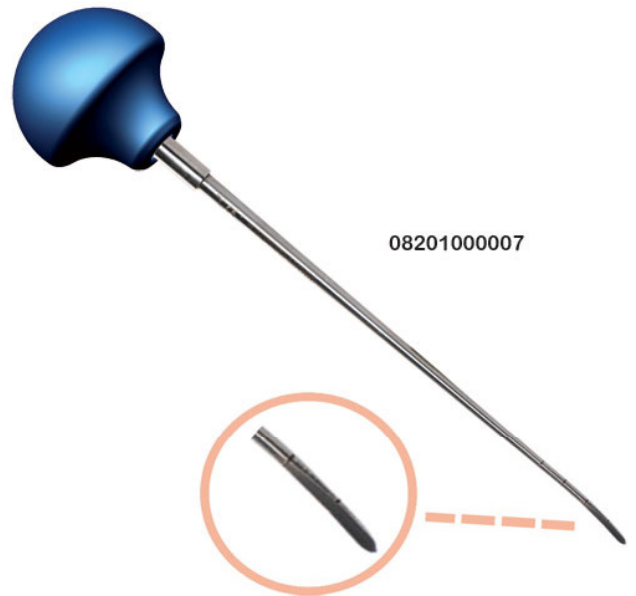


CODE (Ti)	IMPLANT	
20127160927	Lock. Cortex Screw Conical Head SelfT Ti	2.7 x 16 mm
20127180927	Lock. Cortex Screw Conical Head SelfT Ti	2.7 x 18 mm
20127200927	Lock. Cortex Screw Conical Head SelfT Ti	2.7 x 20 mm
20127220927	Lock. Cortex Screw Conical Head SelfT Ti	2.7 x 22 mm
20127240927	Lock. Cortex Screw Conical Head SelfT Ti	2.7 x 24 mm
20127260927	Lock. Cortex Screw Conical Head SelfT Ti	2.7 x 26 mm
20127280927	Lock. Cortex Screw Conical Head SelfT Ti	2.7 x 28 mm
20127300927	Lock. Cortex Screw Conical Head SelfT Ti	2.7 x 30 mm

Awl



Curved Awl



RIN Holder & Pusher



RIN Impactor



Instruments

Drill Guide Ø2 mm

02005100036



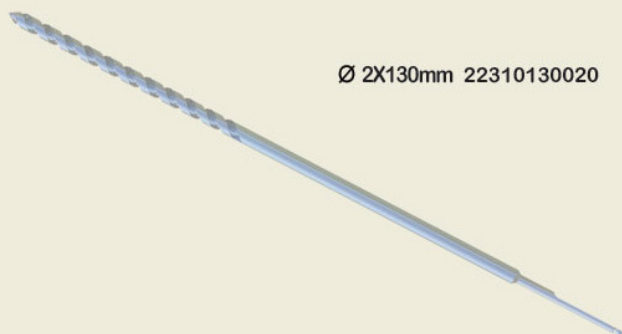
Kirschner Wire Ø1,5 x 120 mm

23410120150



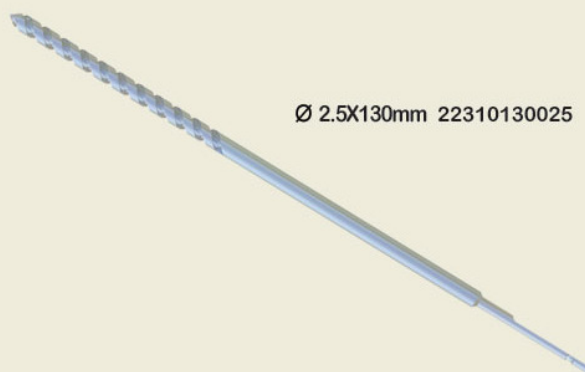
Drill

Ø 2X130mm 22310130020



Drill

Ø 2.5X130mm 22310130025



Hexalobe Screwdriver 2.69 mm

08061000004

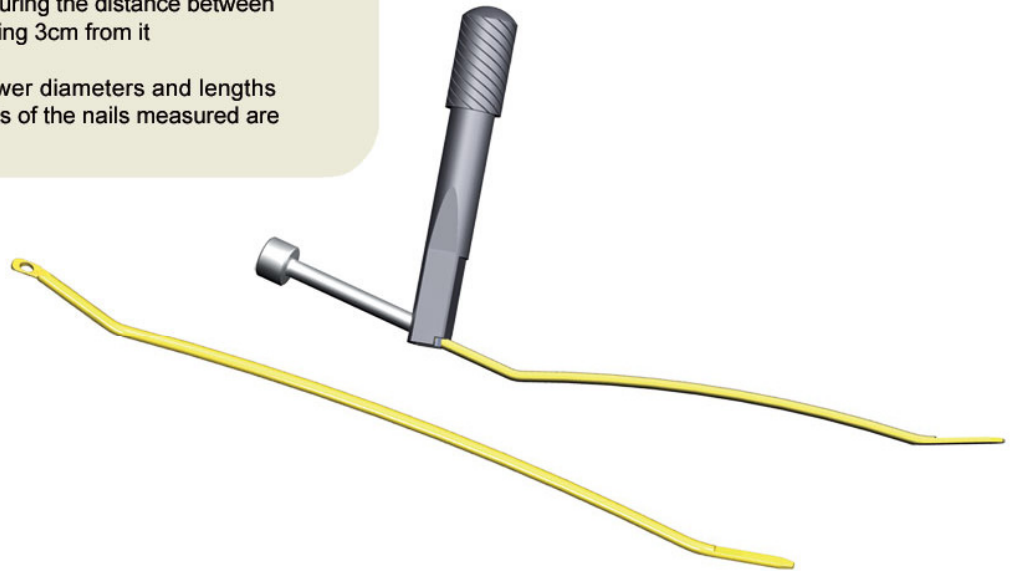


Hammer

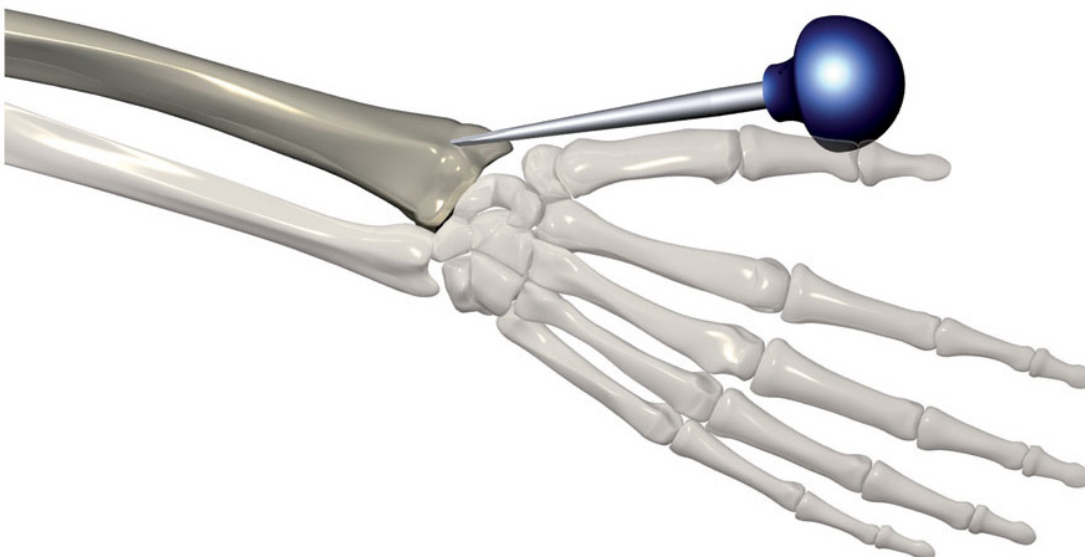
03435000020



- Before surgery, two-sided radiography of the healthy arm from a distance of 1 meter is taken
- The diameter of the nail is determined by measuring the diameter of the narrowest medullar region, the length of the nail is determined by measuring the distance between the joint surfaces and subtracting 3cm from it
- Nails having an upper and lower diameters and lengths than the diameters and lengths of the nails measured are prepared

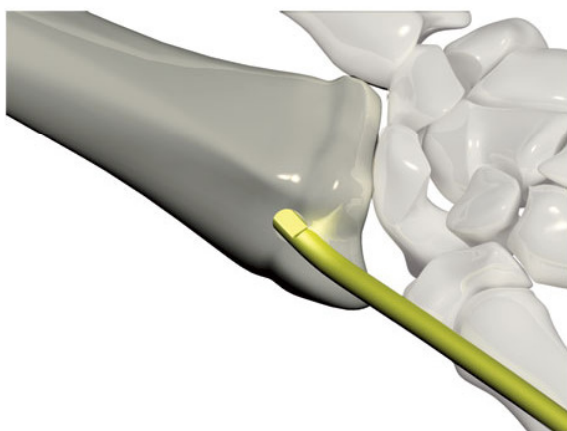
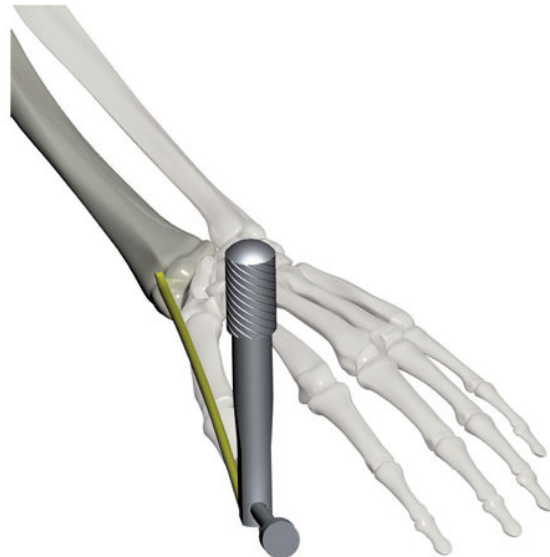


- 2cm incision is made towards the proximal from the dorsal radial region of the patient's wrist that is prepared for the operation
- The bone is perforated (with an awl) and the nail is redirected from metaphysis to the medulla through the first tunnel or preferably the second tunnel (Entry point)

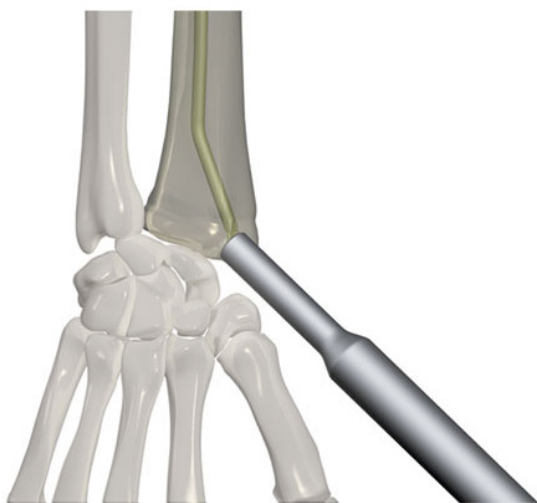


Surgical Technique

- The nail previously prepared with the nail holder is moved forward from the entry hole made to the proximal by partial rotations
- If reduction has been able to be achieved manually; when the nail is moved forward, it's reached to the proximal fragment. If reduction hasn't been able to be achieved, the nail is moved forward by fluoroscopic control; If it doesn't happen again, then following reduction after mini incision, the nail is moved forward as proximal as possible
- When required the hammer in the set can be used



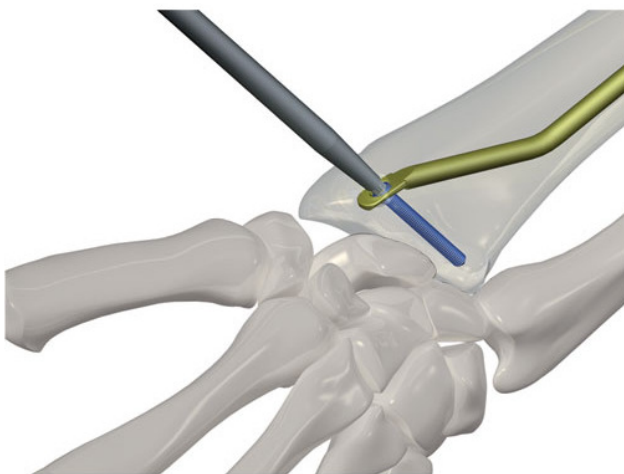
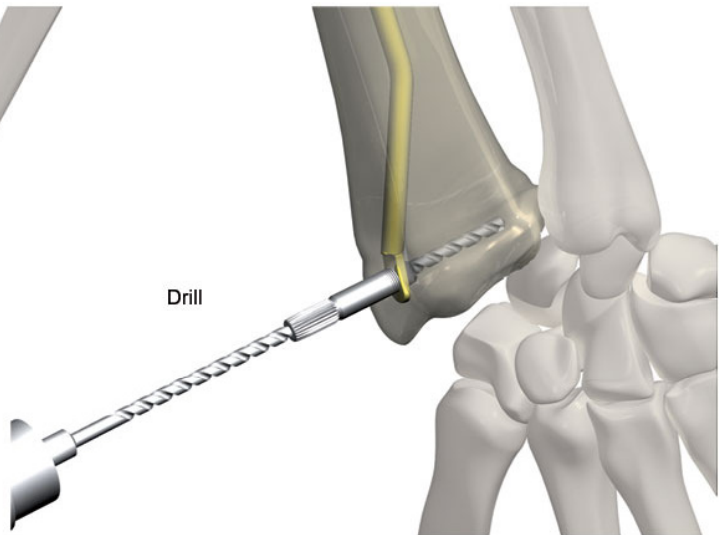
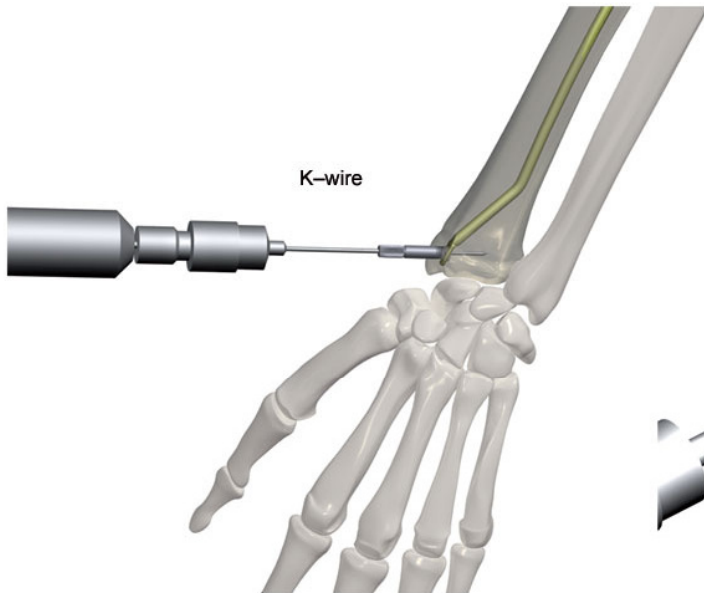
- The nail is placed on its location completely with the last impactor



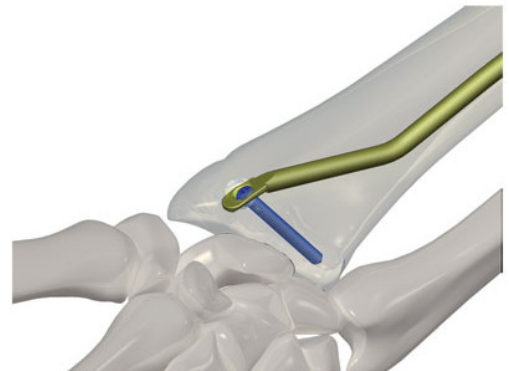
- **Proximal locking:** The nail provides self rotational stability on the proximal region owing to its anatomic design. (when required, stability can be increased by using a setscrew)



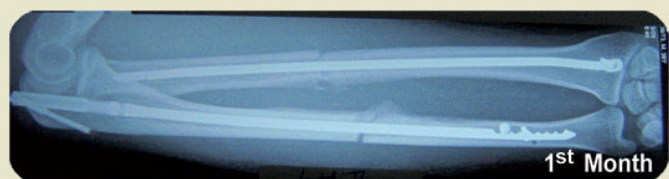
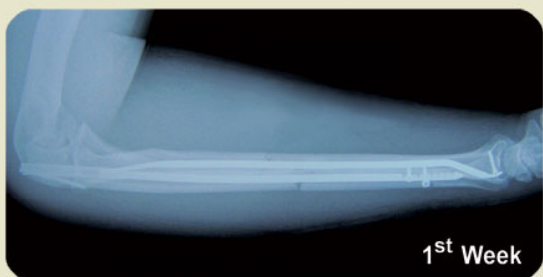
- K-wire and then drill bit are applied through the drill guide, length and direction of the screw can be checked with K-wire



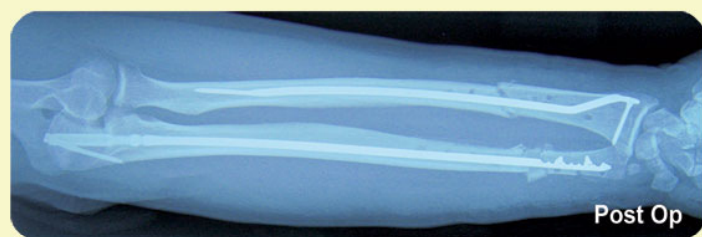
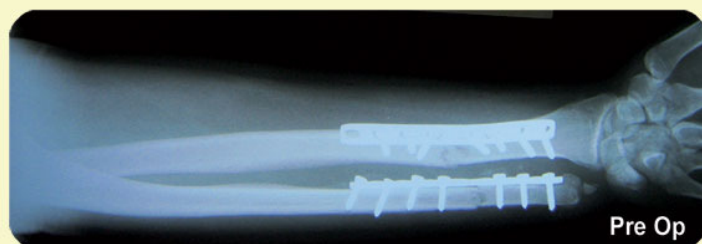
- **Distal Locking** : Interlocking is made with one Ø2.7mm screw owing to the 17 degree prox-volar angled oblique ole existing on the distal part of the nail



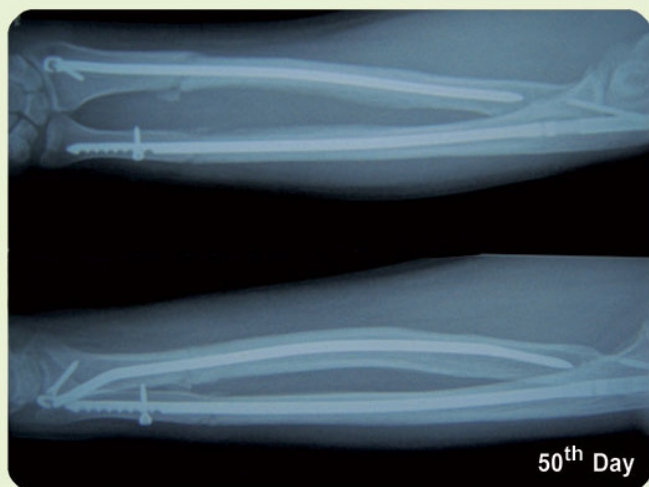
Case Study 1



Case Study 2



Case Study 3



Literature

Akpınar, Fuat; Saka, Gürsel; Küçükdemir, Fatih; Kurtulmuş, Tühan., Özer, Coşkun; Bakır, Uğur (April 2011). 'A Newly Designed Intramedullary Nail for Forearm Fractures in Adults'. Ümraniye Research and Education Hospital, Department of Orthopaedics, İstanbul, Turkey. 12th European Congress on Trauma & Emergency Surgery, ESTES, Milan, Italy

Saka, Gürsel; Durkaya, Salih Murat; Küçükdemir, Fatih; Özer, Coşkun; Akpınar, Fuat (May 2010). 'A new intramedullary nail which is stable, allows early mobilization, and shortens the duration of the operation for fractures of the forearm'. Ümraniye Research and Education Hospital, Department of Orthopaedics and Traumatology Clinic, İstanbul, Turkey. 12th National Congress on Hand and Upper Extremity Surgery, Antalya, Turkey. Durkaya, Salih Murat; Saka, Gürsel; Sağlam, Necdet; Özer, Coşkun; Fuat, Akpınar (May 2010). 'Comparison of methods of fixing plate-screw and new-generation locking IM nail in the treatment of forearm fractures in adults'. Ümraniye Research and Education Hospital, Department of Orthopaedics and Traumatology Clinic, İstanbul, Turkey. 12th National Congress on Hand and Upper Extremity Surgery, Antalya, Turkey.

Saka, Gürsel; Durkaya, Salih Murat; Özdamar, İhsan; Kibar, Birkan; Akpınar, Fuat (May 2010). 'The intramedullary nailing by open reduction with minimal incision or closed reduction for unstable forearm double fractures in pediatrics. Ümraniye Research and Education Hospital, Department of Orthopaedics and Traumatology Clinic, İstanbul, Turkey. 12th National Congress on Hand and Upper Extremity Surgery, Antalya, Turkey.

P.S: The article 'A Newly Designed Intramedullary Nail for Forearm Fractures in Adults' was presented at 12th European Congress on Trauma & Emergency Surgery, ESTES in Milan (Italy) on April 27-30, 2011.

