

DISTAL RADIUS PROSTHESIS

COBRA™



SURGICAL TECHNIQUE



groupe lépine

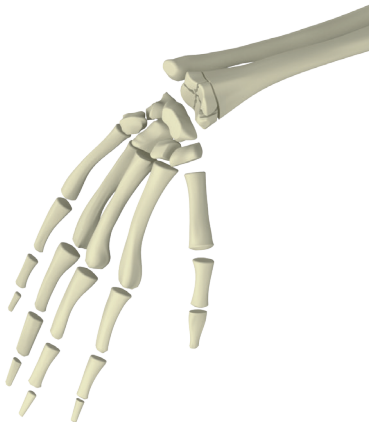
Depuis 1714

SURGICAL APPROACH

The surgeon should be seated distal to the hand so that to be able later to better control the position of the implant relative to the radius in the transverse plane.

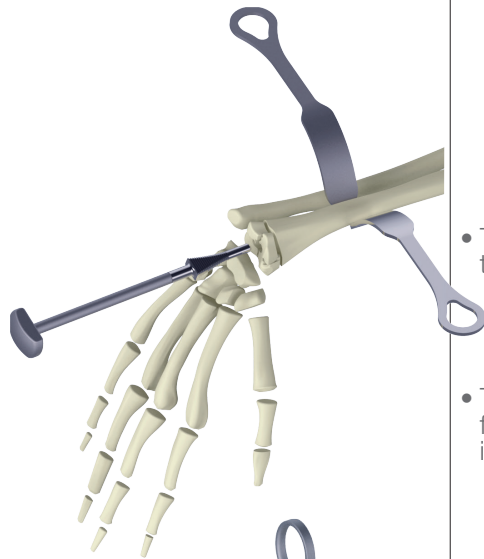
- The surgical approach is dorsal longitudinal in the midline of the wrist, in line with the third metacarpal.
- The third dorsal extensor compartment is exposed and opened longitudinally.
- Care is taken not to injure the dorsal intercarpal ligament.

FRACTURE EXPOSURE

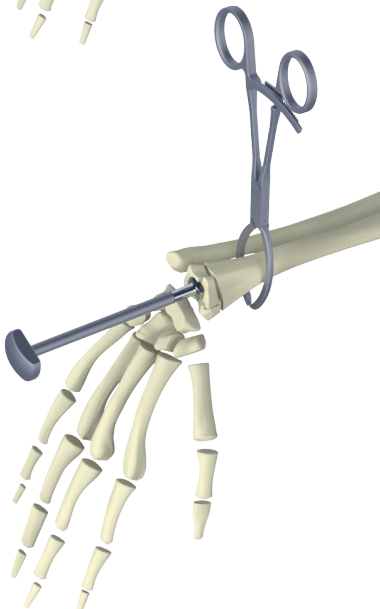


- An osteotome is used to open within the third compartment the comminuted fracture like a book by elevating radially and ulnarly two 1cm-thick osteo-tendinous flaps.
- Following the same line, the convexity of the first carpal row is exposed through a 1 cm capsular incision. The dorsal intercarpal ligament is left undisturbed.
- The wrist is flexed up to 70° to 90° on towels.
- The comminuted osteo-cartilaginous distal radius fragments are excised.
- A peripheral layer of cancellous bone is preserved for later surrounding of the implant.

BROACHING OF THE RADIAL DIAPHYSIS



- The distal part of the radial diaphysis is exposed in between two retractors.
- The anterior aspect of the radial epiphysis is followed with a flat instrument. This is important since the orientation of the implant in the transverse plane will parallel this landmark.

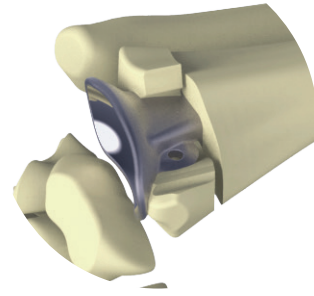


- The radial medullary canal is entered with a dedicated broach parallel to the anterior aspect of the radial epiphysis. During this step, the assistant keeps the radial diaphysis in pronation with a bone clamp so that the flat part of the radial metaphysis is parallel to the floor.
- About 1.5 cm of the broach is left out of the diaphysis to help keeping the radial length.

INSERTION OF THE TRIAL IMPLANT



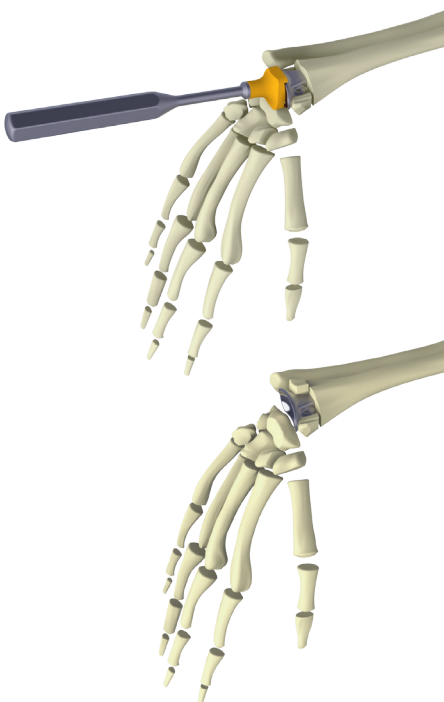
- The trial implant is gently impacted into the radial canal. The two flanges help to control the position of the implant in the transverse plane.
- According to the pre-operative planification with templates, about 1.5 cm of implant is left out of the diaphysis to keep the radial length.
- Reduction of the carpus on the distal aspect of the trial implant is then performed:
 - if the reduction is impossible or too tight, the implant should be impacted further proximally into the radial diaphyseal canal,
 - if the reduction is too loose allowing an easy dislocation between the carpus and the implant, a longer length of the implant should be left out of the radial canal. This can be performed by inserting some cancellous pieces of bone into the radial canal or by later cementing the final implant at an appropriate length.
- At any rate the innate radial length should be restored as anatomically as possible in order to provide stability between the implant and the carpus. No more than 2mm of “pistoning” is allowed between the implant and the carpus.



MANAGEMENT OF THE ULNAR HEAD

- If the sigmoid notch bony fragments can be re-approximated and/or sutured, the ulnar head is left intact for DRUJ salvage.
- If the sigmoid notch fragments are irreparable or if there is an associated ulnar head or neck fracture, the ulnar head is removed obliquely according to Watson. The ulnar stump is stabilized with trans-osseous suture of the volar DRUJ capsule to the dorsal aspect of the ulnar stump according to the Blatt.

INSERTION OF THE FINAL IMPLANT



- The final implant is gently impacted into the radial canal at the appropriate length. Most often the primary stability of the final implant at a proper length is easily obtained. If this is not the case, a specific implant is used with cement.
- Gentle reduction of the carpus on the distal aspect of the final implant is then performed. The 2mm maximum “pistoning” is re-checked.
- The two peripheral osteo-tendinous flaps are brought back together as closing a book and sutured together with non-absorbable threaded sutures taking care to keep the extensor compartments intact. The Extensor Pollicis Longus tendon is left out of its compartment.
- Free cancellous bone is used around the implant to fill in the bony defects if necessary. Osteosuture using the holes of the implant flanges may be used. The short dorsal capsule incision is closed with two non-absorbable monofilament sutures.

IMPORTANT

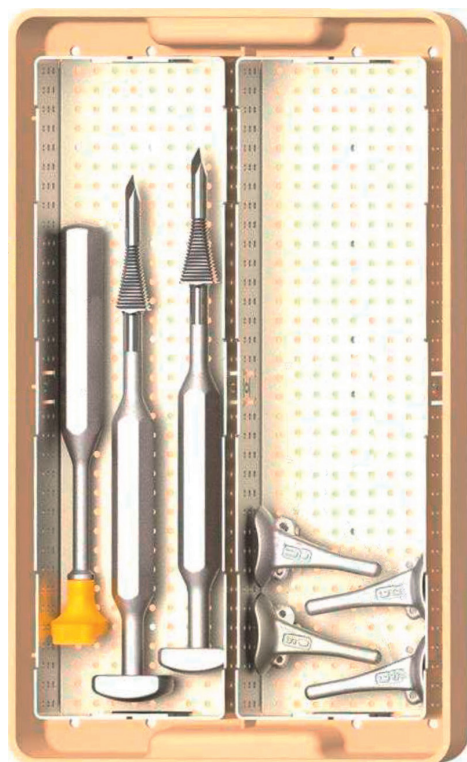
If the bone quality is poor, it's better to use the specific cemented radial implant to restore the radial length.

POST-OPERATIVE MANAGEMENT

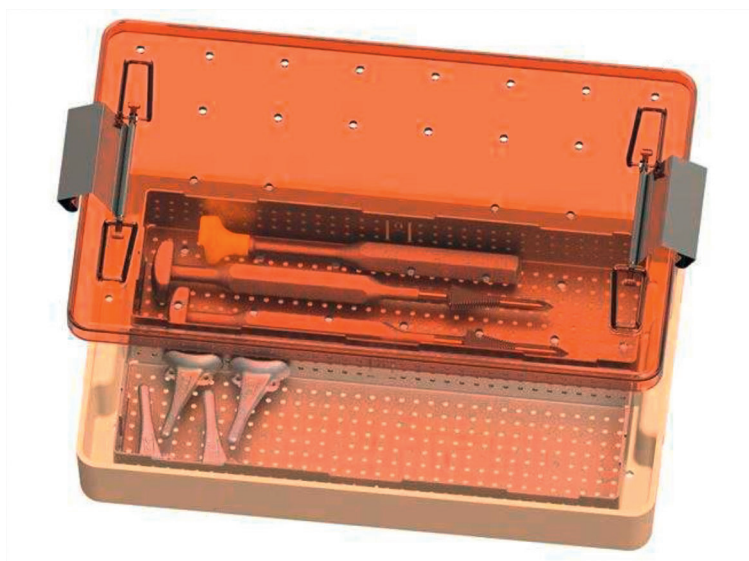
- Post-operative management consisted of immobilization in 20° wrist extension in a long-arm cast in neutral rotation for 3 weeks followed by a volar wrist splint in 20° wrist extension for 3 weeks.
- Gentle self-rehabilitation in forearm rotation and wrist flexion-extension is begun at 3 weeks. Formal physiotherapy may be added if necessary.

COBRA TRAY

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Designation	Ref	Quantity
TRIAL RADIAL IMPLANT LS	MRAES001	1
TRIAL RADIAL IMPLANT RS	MRAES011	1
TRIAL RADIAL IMPLANT LM	MRAEM001	1
TRIAL RADIAL IMPLANT RM	MRAEM011	1
RADIUS RASP S	MRARS001	1
RADIUS RASP M	MRARM001	1
RADIAL IMPACTOR	MRAIR001	1
247/70/H32 BOWL	UCAEC001	2
270X160X35 EMPTY CASE	B3L2716	1
STANDARD COVER ANCILLARY	OUA CS001	1



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