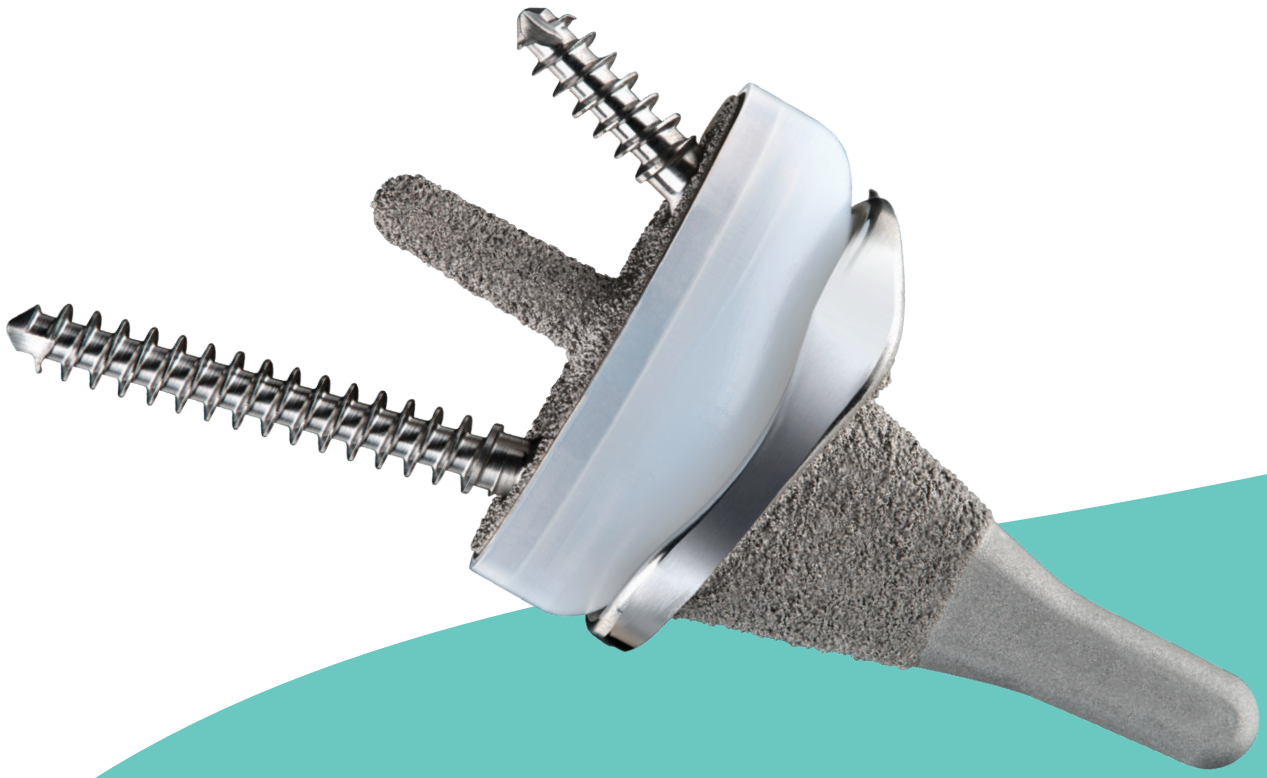
Smith+Nephew

# FREEDOM

## Wrist Arthroplasty System

Surgical Technique



# Table of Contents

# Description

The system consists of components to replace the articulation of the distal radius and proximal row of carpal bones of the wrist joint and corresponding instrumentation. The components are intended to be implanted together as a system, not individually as ^^-arthroplasty components.

The radial component is made of Cobalt Chrome Molybdenum Alloy (CrCoMo) and has a concave articulating surface and is fixed by means of a stem which is inserted and cemented into the radial intramedullary canal.

The carpal implant is an assembly consisting of a titanium carpal plate, which is fixed into the carpal bones with a cemented central peg and two titanium screws and locking caps. A convex Ultra-High-Molecular-Weight Polyethylene (UHMWPE) bearing is locked onto the carpal plate to articulate with the radial component.

Instrumentation is provided to assist in the surgical implantation of the Smith+Nephew FREEDOM Wrist Arthroplasty System. It is important that the instruments and trial implants used are those specifically designed for this device to ensure accurate installation.

# Preoperative planning

The Smith+Nephew FREEDOM Wrist has been designed to offer less constraint. Surgeon should evaluate the state of the soft tissue envelope when deciding on patient population.

The proper implant size is estimated preoperatively using X-rays of the wrist. With the carpal plate stem aligned with the center of the capitate on the posteroanterior (PA) view, the ulnar screw should enter the proximal pole of the hamate at the level of resection. In general, select the smaller implant size when deciding between two sizes.

**Note Bena**

The following technique guide is intended for informational and educational purposes only. It is not intended to serve as medical advice. It is the responsibility of treating physicians to determine and utilize the appropriate products and techniques, according to their own clinical judgment, for each of their patients. For more information on the product, including its indications for use, contraindications, and product safety information, please refer to the product's label and the Instructions for Use packaged with the product.

Prior to performing this technique, please consult the Instructions for Use documentation provided with each device for additional health and safety information, including indications, contraindications, warnings and precautions.

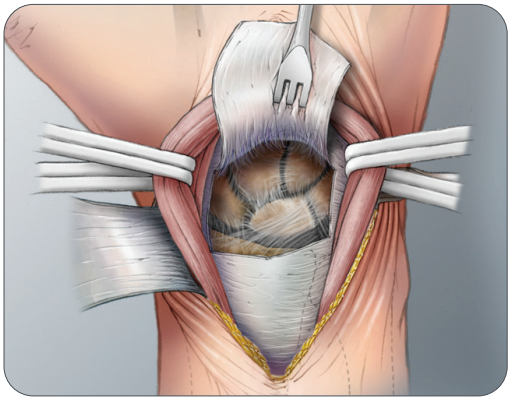


**Figure 1-1**

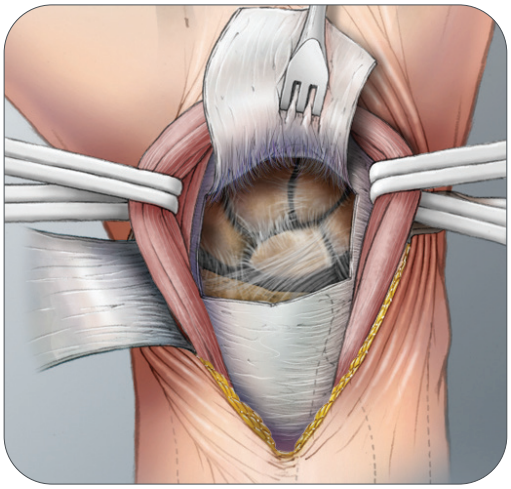


**Figure 2-1**

## Step 1 ▪ Surgical Incision

**1-1** A dorsal longitudinal incision is made over the wrist in line with the 3rd metacarpal, extending proximally from its midshaft to approximately 8cm proximal to the wrist joint.

The skin and subcutaneous tissue are elevated together off the extensor retinaculum, with care to protect the branches of the superficial radial nerve and the dorsal cutaneous ulnar nerve.

The extensor digiti quinti (EDQ) extensor compartment is opened and the entire retinaculum is elevated radially to the septum between the 1st and 2nd extensor compartments. Each septum is divided carefully to avoid creating rents in the retinaculum, especially at Lister's tubercle.

An extensor tenosynovectomy is performed if needed, and the tendons are inspected. The extensor carpi radialis brevis (ECRB) must be intact or repairable [preferably the extensor carpi radialis longus (ECRL)]. Quarter inch Penrose tubing is used to retract the extensor tendons, with the extensor digiti quinti (EDQ) and extensor digiti communis (EDC) tendons pulled ulnarly and the extensor pollicis longus (EPL), extensor carpi radialis brevis (ECRB), and extensor carpi radialis longus (ECRL) pulled radially.

## Step 2 ▪ Joint Exposure

**2-1** The dorsal wrist capsule is raised as a broad distally-based rectangular flap to the level of the mid-capitate. The capsule is raised in continuity with the periosteum over the distal 1cm of the radius to create a longer flap for closure. The radial side of the flap is made in the floor of the 2nd extensor compartment and the ulnar side extends from the radius to triquetrium.

The 1st extensor compartment is elevated subperiosteally from the distal 1cm of the radial styloid. The remaining dorsal wrist capsule is elevated ulnarly from the triquetrum.

The wrist is fully flexed to expose the joint. If necessary, a synovectomy is performed. If the distal ulna is to be resected, a separate capsulotomy is made proximal to the triangular fibocartilage complex (TFCC).

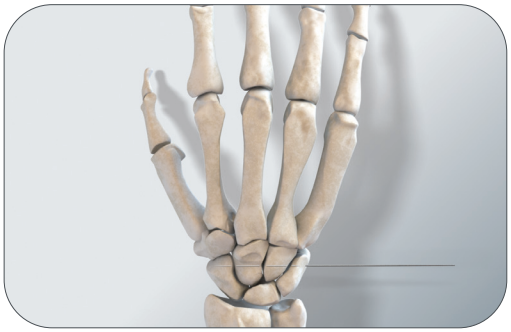


Figure 3-1a

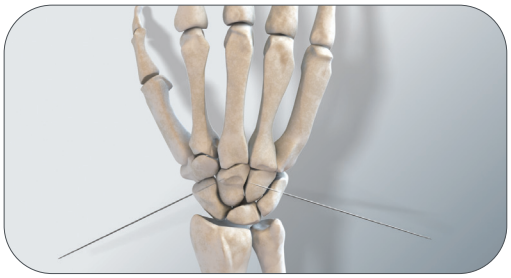


Figure 3-1b

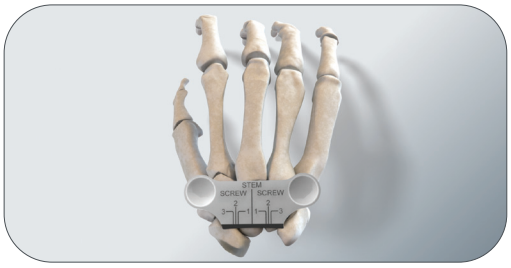



Figure 3-2

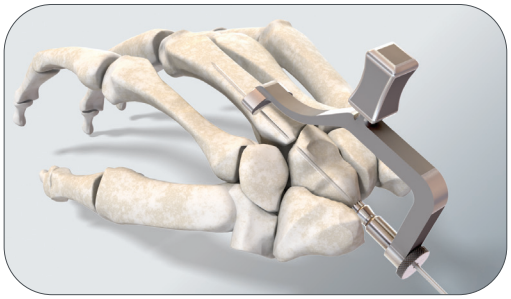


Figure 3-3

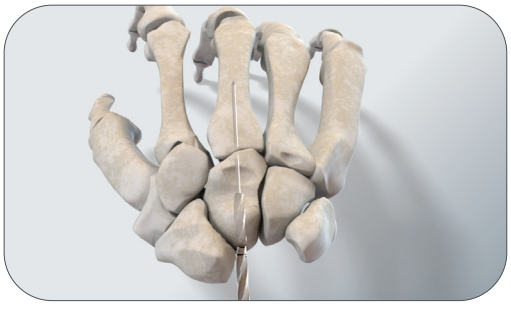


Figure 3-4

## Step 3 ▪ Preparation of Carpus

**3-1a** If the scaphoid and triquetrum are mobile, carpus preparation is facilitated by first temporarily pinning these bones to the capitate and hamate in positions that create maximum joint contact. The Tissue Protective Sleeve is used to protect the soft tissues when inserting 0.054 (1.4mm) K-wires.

**3-1b** A single transverse K-wire or two oblique K-wires are used. The K-wires are inserted so as not to impede the carpal osteotomy or screw placements, and can be left in place through final carpal component implantation when advantageous. Excise the lunate by sharp dissection and rongeur.

**3-2** Place Carpal Sizer just distal to intended level of resection, centering on the long axis of the capitate. The resection should cut through the proximal 1.5mm of the hamate, the capitate head, scaphoid waist, and mid-triquetrum. The Smith+Nephew FREEDOM Total Wrist is available in three sizes: 1, 2 and 3. Size is determined by the line on the Carpal Sizer that most closely matches up with the center of the proximal pole of the hamate. This site corresponds to the ulnar screw insertion point.

**3-3** Insert K-wire Sleeve into barrel of Modular Drill Guide. Apply Modular Drill Guide with barrel pressed against center of capitate head and the saddle on the 3rd metacarpal shaft, either on top or under the skin. If necessary, remove the most proximal portion of scaphoid to facilitate seating Modular Drill Guide on capitate. Drive a 0.054 (1.4mm) K-wire through the capitate and into the 3rd metacarpal base. Remove K-wire Sleeve first, then remove Modular Drill Guide. Check position of K-wire using fluoroscopy to ensure it is directed down the center of the capitate into the metacarpal.

**3-4** Place the 3.5mm Cannulated Drill Bit over K-wire. Drill to first laser mark for size 1, second mark for size 2, and third mark for size 3. Remove drill bit and K-wire.

Figure 3-5

Figure 3-6

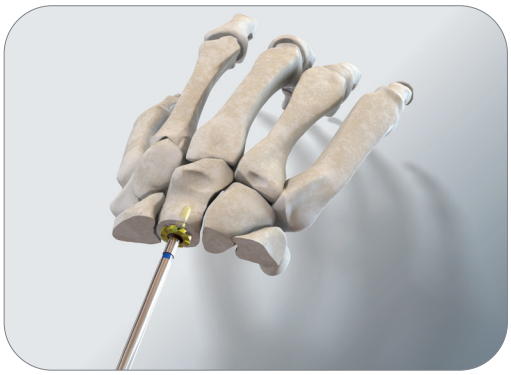


Figure 3-7

Figure 3-8

## Step 3 ▪ Preparation of Carpus (continued)

**3-5** Insert Carpal Guide Bar into capitate. Mount Carpal Resection Guide on Carpal Guide Bar. Insert Hamate Feeler into the holes in the Carpal Resection Guide closest to proximal pole of hamate. Slide Carpal Resection Guide distally with minimal force until Hamate Feeler just contacts proximal pole of hamate. At this position, the saw blade will cut through the proximal 1.5mm of hamate (the cut will also pass through the capitate head, scaphoid waist, and mid-triquetrum).

**3-6** Pin Carpal Resection Guide to capitate with two 0.054 (1.4mm) K-wires inserted through the two innermost holes. Insert additional K-wires as needed into scaphoid and triquetrum to stabilize Carpal Resection Guide to the carpus. Remove Hamate Feeler and Carpal Guide Bar. Slide Carpal Resection Guide down against carpus. Confirm the cut will be made nearly perpendicular to the 3rd metacarpal shaft at proper level through carpus. Cut K-wires above Carpal Resection Guide. An oscillating saw blade is used to make the carpal resection. If necessary, remove the Carpal Resection Guide to complete the cut. Retain resected bone for future bone grafting.

**3-7** Remove Carpal Resection Guide and its securing K-wires. Select the appropriate size Carpal Reamer to prepare capitate for Carpal Plate Trial. Connect Carpal Reamer to AO Handle and ream until Carpal Reamer flange abuts capitate. If flange on Carpal Reamer does not fully abut capitate, drill hole deeper and ream again.

**Warning: Carpal Reamers are not intended to be connected to power equipment.**

**3-8** Attach Carpal Plate Impactor to Broach Handle. Select appropriate size Carpal Plate Trial and impact into capitate, aligning its dorsal edge with the dorsal contour of the carpus. Carpal Plate Trial may be left in place to protect carpus during radial preparation.

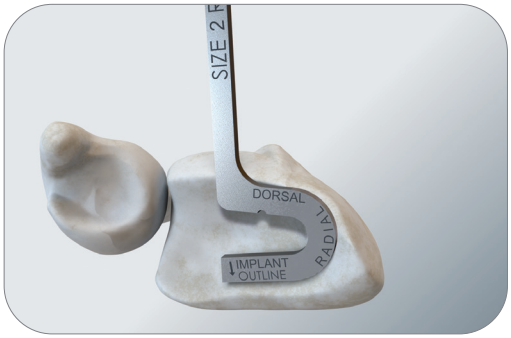



**Figure 4-1**

**Figure 4-2**

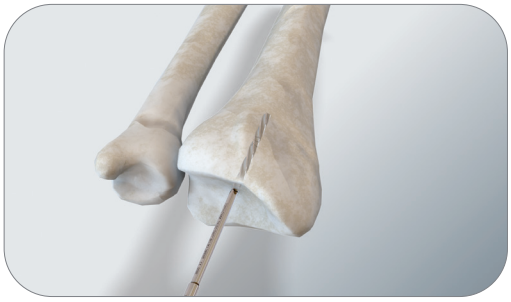


**Figure 4-3**

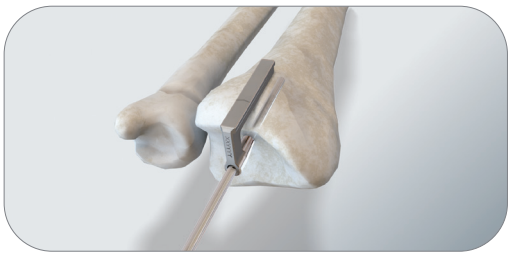


**Figure 4-4**


**Figure 4-5**

## Step 4 ▪ Preparation of Radius

**4-1** Align Radial Template with dorsal and radial edges of radius. Using notch on Radial Template, mark K-wire insertion site for entry into radial canal. K-wire insertion site will typically be below Lister's tubercle and in the dorsal/ulnar quadrant of the scaphoid fossa.

The distal radius' articular surface and Lister's tubercle may be distorted by chronic wear, trauma, or rheumatoid disease. In this case, the Radial Template may be used as a reference point for insertion of a K-wire, but fluoroscopy should be used to facilitate accurate placement.

**4-2** Insert K-wire Sleeve into barrel of Modular Drill Guide. Position Modular Drill Guide with saddle beneath subcutaneous tissue and on top of musculature on dorsal radius. Insert a 0.054 (1.4mm) K-wire into radius. Using fluoroscopy, confirm K-wire is centered in radial canal in both PA and lateral views. If K-wire is not centered in radial canal, reposition K-wire. Remove K-wire Sleeve to facilitate removal of Modular Drill Guide.

**4-3** Place 3.5mm Cannulated Drill over K-wire and drill to highest laser mark near end of flutes. Remove drill and K-wire. Insert Radial IM Guide Rod into radius. Confirm position with fluoroscopy.

**4-4** Slide Radial Feeler over Radial IM Guide Rod until it abuts radius. If necessary, remove Lister's tubercle to facilitate placement of Radial Feeler.

Select Radial Resection Guide that corresponds to Carpal Plate Trial size.

**4-5** Apply Radial Resection Guide onto Radial Feeler ensuring label, Left or Right, is aligned distally with proposed resection. Slide Radial Resection Guide into a position to resect the dorsal portion of the radial articular surface. For reference, the laser line on the Radial Feeler corresponds to where its barrel contacts the articular surface. The cut will typically be at or just proximal to this line. The cut need not remove the entire articular surface, particularly its volar portion.

Align Radial Resection Guide with dorsal surface of radius. Insert two or three 0.054 (1.4mm) K-wires into distal radius through any holes in Radial Resection Guide, with at least one on each side of the Radial Feeler.

Remove Radial IM Guide Rod and Radial Feeler. Slide Radial Resection Guide against radius. Cut K-wires above Radial Resection Guide.


Figure 4-6

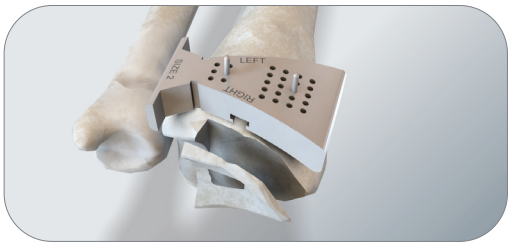



Figure 4-7

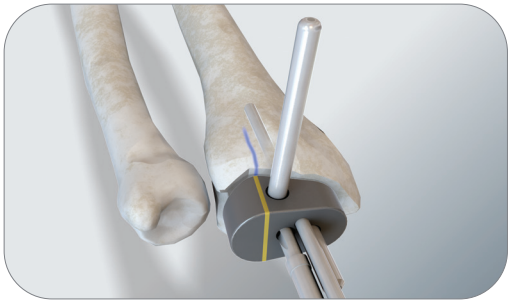


Figure 4-8

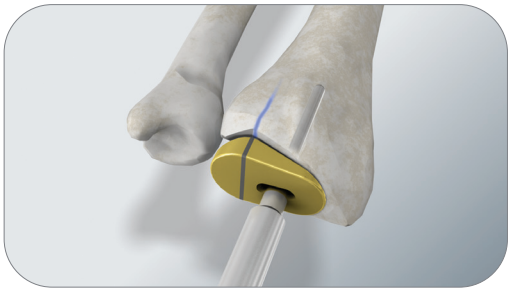


Figure 4-9


Figure 4-10

## Step 4 ▪ Preparation of Radius (continued)

**4-6** The Radial Score Guide is used to mark ulnar extent of radial resection to maintain integrity of the distal radial ulnar joint (DRUJ). Attach Radial Score Guide to Radial Resection Guide and score radius 1-2mm in depth using a saw blade. Remove Radial Score Guide.

**4-7** Resect radius with oscillating saw blade. To complete the cut, Radial Resection Guide may need to be removed.

Remove remaining prominence of radius at its dorsal ulnar rim adjacent to the sigmoid notch and any large osteophytes on volar rim using a rongeur. Remove Radial Resection Guide and K-wires.

**4-8** Reinsert Radial IM Guide Rod. Select appropriate Radial Drill Guide (left or right) and place it over Radial IM Guide Rod and against radius in proper rotational alignment.

The Radial Drill Guide and Box Punch have corresponding lines to match rotation during their sequential use. A pen is used to mark the bone adjacent to line on Radial Drill Guide. Using 4.0mm Stop Drill Bit, drill radial hole to drill stop. Insert Anti-Rotation Pin into drilled hole. Drill ulnar hole to drill stop. Remove Anti-Rotation Pin and Radial Drill Guide.

**4-9** Slide appropriate Box Punch (left or right) over Radial IM Guide Rod. Align volar corners of Box Punch with the two drilled holes and use mark on bone to assist with rotational alignment. Drive Box Punch into radius with a mallet until fully seated. Remove Box Punch and Radial IM Guide Rod. Remove any remaining bone left by Box Punch with a small curette.

**4-10** Attach appropriate Size 1 Radial Broach (left or right) to Broach Handle. Insert nose of Size 1 Broach into radial canal hole. Ensure Radial Broach is in correct longitudinal alignment with the radius and drive Radial Broach with a mallet until its dorsal collar is flush with bone. The Radial Broach teeth extend beyond the level of the collar and are not intended to be fully impacted. Use fluoroscopy to confirm the broach is centered in the canal and aligned with the long axis of the radius. Sequentially broach up to size of selected Radial Trial.


Figure 5-1

Figure 5-2


Figure 6-1

Figure 6-2

## Step 5 ▪ Trial Reduction

**5-1** Assemble Radial Impactor to Broach Handle and impact Radial Trial.

**5-2** Place the standard Carpal Poly Trial over the Carpal Plate Trial.

Reduce joint and assess range of motion and stability. The joint should be stable and demonstrate approximately 35° of extension and 35° of flexion with modest tightness at full extension.

If the volar capsule is too tight and limiting extension, the radius can be shortened by approximately 1.5mm using the previously described radial preparation. If a severe preoperative flexion contracture was present, a step-cut tendon lengthening of flexor carpi ulnaris (FCU) and flexor carpi radialis (FCR) may help achieve proper balance and motion. If volar instability is present, the volar capsule should be inspected and if detached then repaired to rim of distal radius. If volar capsule is intact, a thicker Carpal Poly Trial may be used to improve joint stability. There are three thicknesses of carpal poly trials for each implant size (Standard, +2mm, +4mm). A mild dorsal instability should respond to capsule closure but a thicker poly is considered for marked instability.

Remove Carpal Poly Trial and Carpal Plate Trial. A towel clip may be used to remove the Carpal Plate Trial. Remove Radial Trial with Radial Trial Remover.

## Step 6 ▪ Implantation

The three sizes of the Smith+Nephew FREEDOM Wrist are not interchangeable; the same size radial and carpal component must be used. To prepare for the cement mantle, broach radius one size larger than the selected implant size. For example, the size 4 Radial Broach is used for a size 3 radial implant. Use the Carpal Cement Reamer to prepare for cementation of the carpal stem. The Carpal Cement Reamer has two laser marks. Ream to first mark for size 1, second mark for size 2, and fully insert reamer head for size 3.

Three horizontal 2-0 polyester sutures are placed through small bone holes made along dorsal rim of distal radius for later capsule closure.

To prepare for final implant insertion, assemble Radial Impactor onto a Broach Handle and the Carpal Plate Impactor onto other Broach Handle. Thoroughly irrigate the wound of all debris.

**6-1** Inject cement with a syringe into radius and capitate. Insert Radial Implant and use Radial Impactor to fully seat. Insert Carpal Plate Implant and use Carpal Plate Impactor to fully seat. Remove excess cement and continue with screw preparation while cement cures.

**Warning: Avoid using excessive force when impacting final implants.**

**6-2** Position the barrel of the Modular Drill Guide into the radial hole of the carpal plate and its saddle on 2nd metacarpal. Insert K-wire Sleeve and drive a 0.054 (1.4mm) K-wire into base of 2nd metacarpal. Confirm position using fluoroscopy. Remove K-wire Sleeve.

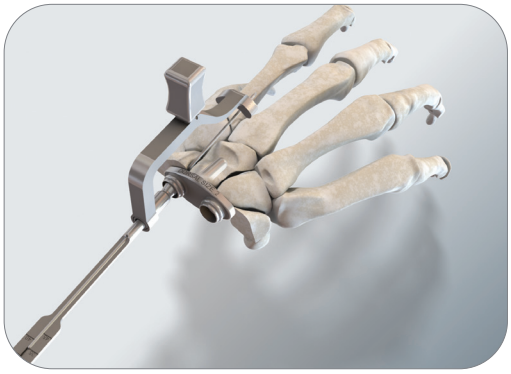


Figure 6-3


Figure 6-4


Figure 6-5

## Step 6 ▪ Implantation (continued)

**6-3** Slide K-wire Depth Gauge over K-wire to measure screw length. Place a 2.5mm Cannulated Drill Bit over the K-wire and drill to the measured depth. Remove Cannulated Drill Bit and K-wire. Remove Modular Drill Guide.

Attach the 2.5mm Hex Driver to the AO Handle. The 2.5mm Hex Driver is not intended to retain screws.

**Warning: Screws and Locking Caps are not intended to be inserted with power equipment. Screws and Locking Caps are not interchangeable with implants from other manufacturers or other Smith+Nephew implant systems.**

**6-4** Insert a 4.5mm screw corresponding to measured depth into radial hole of the Carpal Plate. Do not fully tighten yet.

Position barrel of Modular Drill Guide into ulnar hole of Carpal Plate and its saddle on 4th metacarpal. Insert K-wire Sleeve into Modular Drill Guide. Manually extend the 4th and 5th CMC joints to facilitate proper K-wire insertion. Drive a 0.054 (1.4mm) K-wire into the hamate to its distal cortex and confirm position using fluoroscopy. Remove K-wire Sleeve and use K-wire Depth Gauge to measure the K-wire's depth. Place a 2.5mm Cannulated Drill Bit over the K-wire and drill to the measured depth. Insert a 4.5mm screw corresponding to measured depth into ulnar hole of the Carpal Plate. The screw should not penetrate the 4th CMC joint.

**6-5** Alternately advance screws until tightened.

**Warning: Do not overtighten screws. Do not remove and reinsert screws.**


Figure 6-6

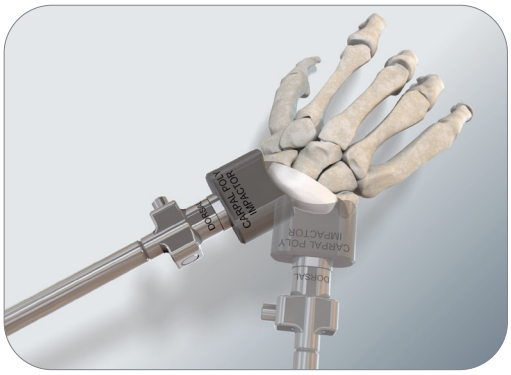



Figure 6-7

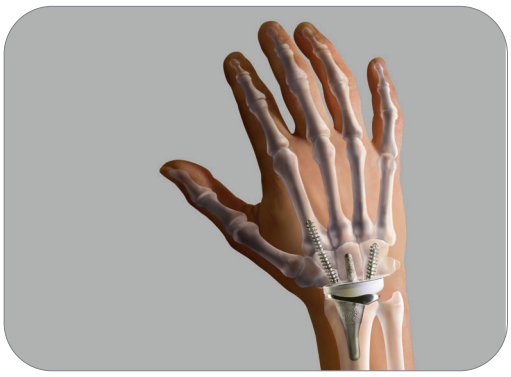


Figure 6-8

## Step 6 ▪ Implantation (continued)

**6-6** Attach T15 Star Driver to AO Handle. Place a Locking Cap on T15 Star Driver with concave portion of Locking Cap directed towards Carpal Plate. If Locking Cap will not thread into Carpal Plate, further insert the screw. Fully tighten Locking Caps.

Confirm appropriate Carpal Poly thickness using Carpal Poly Trials.

Apply Carpal Poly and ensure soft tissue is not trapped between Carpal Poly and Carpal Plate.

**6-7** Attach Carpal Poly Impactor to Broach Handle. Sequentially angle Carpal Poly Impactor radially and ulnarly to impact one side of the Carpal Poly at a time. The Carpal Poly is fully seated when the Carpal Poly lip circumferentially covers the Carpal Plate.

**6-8** Reduce the joint and make a final assessment of wrist motion, balance and stability.

## Bone Grafting and Closure

Perform an intercarpal fusion to stabilize the carpus. The dorsal half of each intercarpal articular surface between the triquetrum, hamate, capitate, scaphoid and trapezoid are removed using a curette or burr (avoid the Carpal Plate stem and screws). Cancellous chips from previously resected bone are packed into the interspaces.

The dorsal capsule is reattached to the distal margin of the radius using the previously placed sutures. The medial and lateral aspects of the capsule are also closed.

If the capsule is insufficient for closure with the wrist flexed 30°, the extensor retinaculum is divided in line with its fibers and one half is placed under the tendons to lengthen the capsule. The entire implant must be covered to achieve proper stability and function and to avoid extensor tendon irritation. The remaining extensor retinaculum is repaired over the EDC tendons to prevent bowstringing, however, the EPL, ECRB and ECRL are typically left superficial to the retinaculum. A suction drain may be placed and the skin is closed. A bulky gauze dressing and a short arm plaster splint are applied.

## Postoperative Care/Therapy*

Strict elevation and early passive and active digital motion are encouraged to reduce swelling and stiffness. At approximately 14 days, the sutures are removed and an X-ray is obtained to confirm prosthetic reduction. Gentle wrist exercises are begun, including active flexion and extension, radial and ulnar deviation, and pronation and supination. (A removable wrist splint is used when not performing exercises.) A therapist may be engaged to ensure progress. The splint is weaned at the 4th postoperative week and hand use advanced. The exercise program is continued and strengthening is added. Power grip and lifting is discouraged for the first 8 weeks. A dynamic splint is occasionally used if recovery of motion is difficult or incomplete. The patient is advised against impact loading of the wrist and repetitive forceful use of the hand.

## Training

Surgeons may obtain training from a qualified instructor prior to implanting the Smith+Nephew FREEDOM Wrist Arthroplasty System to ensure thorough understanding of the implantation techniques and the instrumentation.

## Indications

The Smith+Nephew FREEDOM Wrist Arthroplasty System is indicated for intractable pain resulting from traumatic arthritis, osteoarthritis, rheumatoid arthritis, and trauma-induced osteoarthritis of the radial/carpal joint and is intended to replace functionality of the joint due to deformity or elements stated above. The Smith+Nephew FREEDOM Wrist Arthroplasty System is intended for cemented use.

## Contraindications

Contraindications for the use of the Smith+Nephew FREEDOM Wrist Arthroplasty System include any condition which would contraindicate the use of joint replacement in general, including:

- Poor bone quality which may affect the stability of implants
- Severe tendon, neurological, or vascular deficiencies which could compromise the affected extremity
- Any concomitant disease which may compromise the function of the implants
- Infections; acute or chronic, local or systemic

*Postoperative care is individualized and is determined by the physician based on the patient's injury pattern, unique patient anatomy, and pathologic kinematics. Not all patients will have the same surgical procedure or timelines for rehabilitation. The views and opinions expressed for postoperative care are for informational and educational purposes only. Smith & Nephew, Inc. does not provide medical advice. In no event shall Smith & Nephew, Inc., be liable for any damages whatsoever (including, without limitation, damages for loss of business profits, business interruption, loss of business information, or other pecuniary loss) arising out of the use of or inability to use the expressed views.

# Product information

## FREEDOM Wrist Implants

| Catalog Number | Description |
|---|---|
| 348001 | Carpal Plate, Size 1 |
| 348002 | Carpal Plate, Size 2 |
| 348003 | Carpal Plate, Size 3 |
| 348291 | Carpal Poly, Size 1, Standard |
| 348292 | Carpal Poly, Size 1, +2mm |
| 348293 | Carpal Poly, Size 1, +4mm |
| 348294 | Carpal Poly, Size 2, Standard |
| 348295 | Carpal Poly, Size 2, +2mm |
| 348296 | Carpal Poly, Size 2, +4mm |
| 348297 | Carpal Poly, Size 3, Standard |
| 348298 | Carpal Poly, Size 3, +2mm |
| 348299 | Carpal Poly, Size 3, +4mm |
| 348111 | Radial Implant, Size 1, Left |
| 348112 | Radial Implant, Size 1, Right |
| 348121 | Radial Implant, Size 2, Left |
| 348122 | Radial Implant, Size 2, Right |
| 348131 | Radial Implant, Size 3, Left |
| 348132 | Radial Implant, Size 3, Right |
| 348200 | 4.5mm Screw Locking Cap |
| 348215 | 4.5mm Screw, 15mm Long |
| 348217 | 4.5mm Screw, 17.5mm Long |
| 348220 | 4.5mm Screw, 20mm Long |
| 348225 | 4.5mm Screw, 25mm Long |
| 348230 | 4.5mm Screw, 30mm Long |
| 348235 | 4.5mm Screw, 35mm Long |
| 348240 | 4.5mm Screw, 40mm Long |
| 348245 | 4.5mm Screw, 45mm Long |
| 348315 | 4.5mm Screw and Locking Cap; 15mm Long |
| 348317 | 4.5mm Screw and Locking Cap; 17.5mm Long |
| 348320 | 4.5mm Screw and Locking Cap; 20mm Long |
| 348325 | 4.5mm Screw and Locking Cap; 25mm Long |
| 348330 | 4.5mm Screw and Locking Cap; 30mm Long |
| 348335 | 4.5mm Screw and Locking Cap; 35mm Long |
| 348340 | 4.5mm Screw and Locking Cap; 40mm Long |
| 348345 | 4.5mm Screw and Locking Cap; 45mm Long |

## Instruments

| Catalog Number | Description |
|---|---|
| 348041 | Carpal Plate Trial, Size 1 |
| 348042 | Carpal Plate Trial, Size 2 |
| 348043 | Carpal Plate Trial, Size 3 |
| 348044 | Carpal Poly Trial, Size 1, Standard |
| 348045 | Carpal Poly Trial, Size 1, +2mm |
| 348046 | Carpal Poly Trial, Size 1, +4mm |
| 348047 | Carpal Poly Trial, Size 2, Standard |
| 348048 | Carpal Poly Trial, Size 2, +2mm |
| 348049 | Carpal Poly Trial, Size 2, +4mm |
| 348050 | Carpal Poly Trial, Size 3, Standard |
| 348051 | Carpal Poly Trial, Size 3, +2mm |
| 348052 | Carpal Poly Trial, Size 3, +4mm |
| 348054 | Carpal Sizer |
| 348055 | Modular Drill Guide |
| 348059 | K-Wire Sleeve |
| 348060 | Carpal Guide Bar |
| 348061 | Carpal Resection Guide |
| 348063 | Hamate Feeler |
| 348068 | Carpal Reamer Size 1 |
| 348070 | Carpal Reamer Size 2 |
| 348072 | Carpal Reamer Size 3 |
| 348075 | Carpal Cement Reamer |
| 348081 | Carpal Plate Impactor |
| 348083 | Carpal Poly Impactor |
| 348088 | Tissue Protective Sleeve Assembly |
| RM1011-SO3 | AO Handle |
| 348089 | .054” (1.4mm) K-wire |
| 348090 | K-wire Depth Gauge |
| 348091 | 2.5mm cannulated drill bit |
| 348092 | 3.5mm cannulated drill bit |
| 348093 | 4.0mm Stop Drill Bit |
| 348094 | T15 Star Driver |
| 348095 | 2.5mm Hex Driver |
| 348101 | Radial Trial, Size 1, Left |
| 348102 | Radial Trial, Size 1, Right |

## Instruments (continued)

| Catalog Number | Description |
|---|---|
| 348103 | Radial Trial, Size 2, Left |
| 348104 | Radial Trial, Size 2, Right |
| 348105 | Radial Trial, Size 3, Left |
| 348106 | Radial Trial, Size 3, Right |
| 348137 | Radial Score Guide |
| 348138 | Radial Template Size 1 |
| 348139 | Radial Template Size 2 |
| 348140 | Radial Template Size 3 |
| 348141 | Radial IM Guide Rod |
| 348142 | Radial Feeler |
| 348143 | Radial Resection Guide Size 1 |
| 348144 | Radial Resection Guide Size 2 |
| 348145 | Radial Resection Guide Size 3 |
| 348146 | Broach Handle |
| 348154 | Box Punch, Left |
| 348156 | Box Punch, Right |
| 348160 | Radial Broach Size 1 Left |
| 348163 | Radial Broach Size 1 Right |
| 348166 | Radial Broach Size 2 Left |
| 348169 | Radial Broach Size 2 Right |
| 348172 | Radial Broach Size 3 Left |
| 348175 | Radial Broach Size 3 Right |
| 348178 | Radial Broach Size 4 Left |
| 348181 | Radial Broach Size 4 Right |
| 348184 | Radial Impactor |
| 348186 | Radial Trial Remover |
| 348189 | Radial Drill Guide, Left |
| 348191 | Radial Drill Guide, Right |
| 348195 | Anti-Rotation Pin |

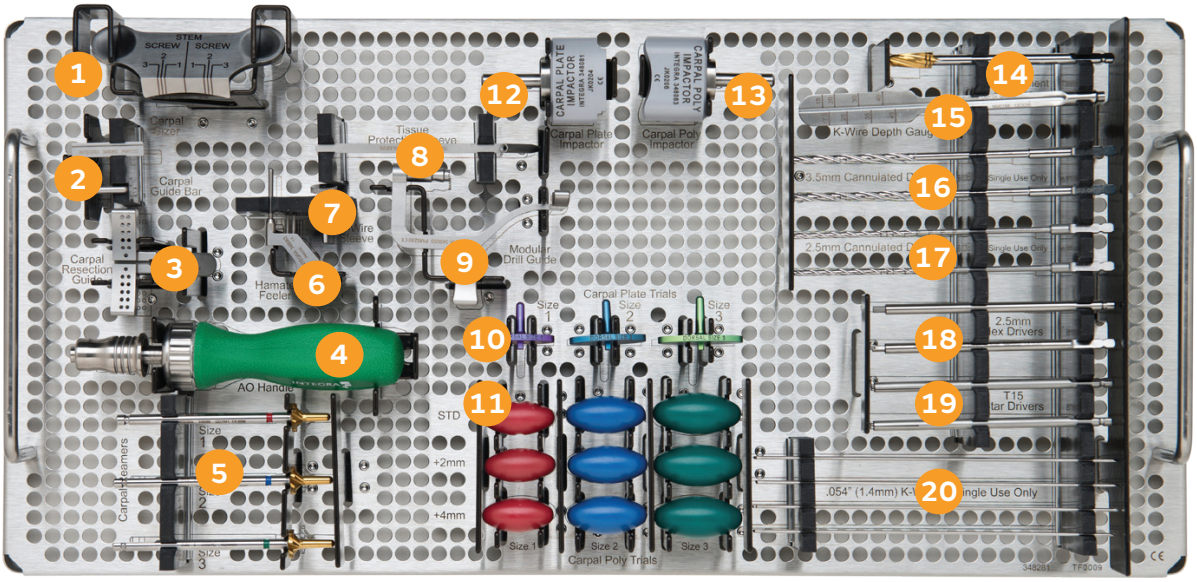
## Instrumentation

### Tray 1

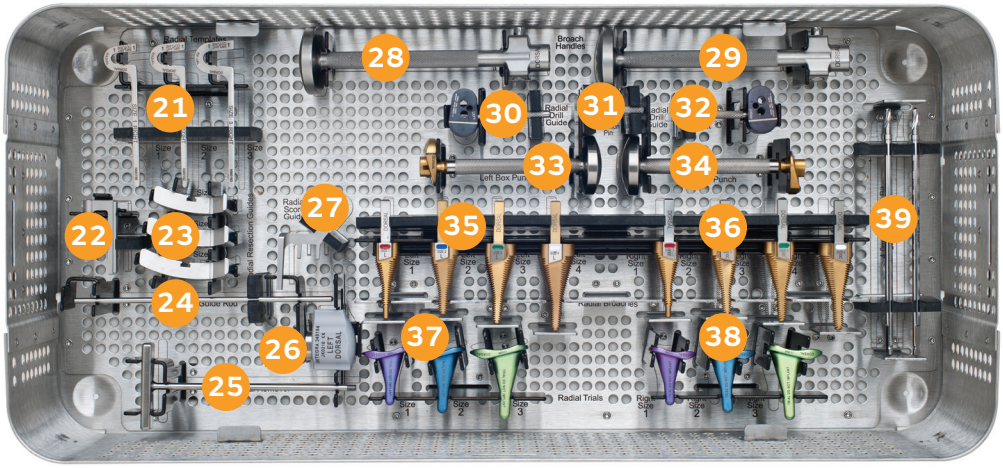
**1.** Carpal Sizer
**2.** Carpal Guide Bar
**3.** Carpal Resection Guide
**4.** AO Handle
**5.** Carpal Reamers
**6.** Hamate Feeler
**7.** K-Wire Sleeve
**8.** Tissue Protective Sleeve
**9.** Modular Drill Guide
**10.** Carpal Plate Trials
**11.** Carpal Poly Trials
**12.** Carpal Plate Impactor
**13.** Carpal Poly Impactor
**14.** Carpal Cement Reamer
**15.** K-wire Depth Gauge
**16.** 3.5mm cannulated drill bit
**17.** 2.5 cannulated drill bit
**18.** 2.5mm Hex Driver
**19.** T15 Star Driver
**20.** 0.054” (1.4mm) K-wire

### Tray 2

**21.** Radial Templates
**22.** Radial Feeler
**23.** Radial Resection Guides
**24.** Radial IM Guide Rod
**25.** Radial Trial Remover
**26.** Radial Impactor
**27.** Radial Score Guide
**28.** Broach Handle
**29.** Broach Handle
**30.** Radial Drill Guide, Left
**31.** Anti-Rotation Pin
**32.** Radial Drill Guide, Right
**33.** Box Punch, Left
**34**. Box Punch, Right
**35.** Radial Broaches, Left
**36.** Radial Broaches, Right
**37.** Radial Trials, Left
**38.** Radial Trials, Right
**39.** 4.0mm Stop Drill Bit




Tray 1




Tray 2

# Surgical technique

Smith+Nephew does not practice medicine and does not recommend this or any other surgical technique for use on a specific patient. The surgeon who performs any implant procedure is responsible for determining and using the appropriate techniques for implanting the device in each patient. Caution: Federal law restricts this device to sale by or on the order of a physician or practitioner.

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