Motec®
Wrist Joint Prosthesis

Swemac
Motec®
Wrist Joint Prosthesis

The Motec® Wrist Joint Prosthesis has been designed specifically for high demand patients, with the objective to provide a strong, stable, mobile and pain free wrist while minimizing the risk of luxation, loosening and osteolysis.

Fixation is achieved by threaded implants made of titanium alloy, blasted and coated with Bonit®, which promotes osseointegration between titanium oxide and bone.

The articulation is modular and can be configured depending on surgeon and patient preference, either with CoCrMo articulating on ceramic coated CoCrMo or CoCrMo articulation on carbon fiber reinforced PEEK Motis™.

Each component is available in different sizes, to allow firm seating and close replication of the patient’s normal range of motion.

Indications

The system is indicated in cases of pain and reduced motion in the wrist caused by:

- Rheumatoid arthritis
- Degenerative arthritis (osteoarthritis)
- Post-traumatic arthritis (secondary arthritis) after failed treatment of:
  - Scaphoid fractures
  - Scapholunate dissociation
  - Kienböck’s disease of the lunate
  - Fracture dislocation of the wrist
  - Intra-articular fractures of the distal radius
  - Intercarpal fusions
  - Proximal row carpectomy
Features and benefits

The Motec Wrist Joint Prosthesis has the following features and benefits:

- Modular design
- State-of-the-art articulation
- Limited bone resection
- Preserves soft tissue and ligament structures
- Improved short term fixation
- Optimized long term fixation through osseointegration
- Compatible wrist arthrodesis solution
- Straightforward operative procedure

Patent number SE 528545 C2
Patent application PM 30191 SE 00
Patent application PM 30191 SE 01
Modular design

The Motec Wrist Joint Prosthesis is completely modular in its design to give the surgeon maximum flexibility in matching the anatomy of the patient.

- The primary fixation in bone is achieved by threaded implants which are available in different sizes.
- The head component is available with several different neck lengths to enable fine tuning of the joint tension.
- The cup component is available in different materials depending on surgeon and patient preference. See page 6-7 for details.
- In case of failure of the prosthesis due to loosening of the Metacarpal Threaded Implant, continuing pain or abnormal soft tissue balance, the fully compatible Motec Wrist Joint Arthrodesis solution is available as a salvage procedure. See page 12 for details.

**Metacarpal Threaded Implant** is available in two diameters and in six different lengths.

**The Radius Cup** is available in CFR-PEEK as well as in ceramic coated CoCrMo.

**The Radius Threaded Implant** is available in three different sizes to allow matching of the radius anatomy.

**The Metacarpal Head Implant** is available in two diameters and in four neck lengths allowing the surgeon to adjust the tension of the joint.
Ball-and-socket design

- Allows 136°–160° range of motion (ROM).
- Increased stability, especially in patients with poor soft tissue.
- The ball and socket articulation prevents loosening of the osseointegrated implants by preventing transfer of rotational forces.
- Can resist forces that cause luxation (no luxation have been reported in more than 400 patients).

Closely replicates the anatomical center of rotation

The anatomical center point of rotation, in both radial-ulnar deviation and flexion-extension is located in the proximal part of the head of the capitate, near the lunate.

The Motec Wrist Joint Prosthesis places the center of rotation very close to the anatomical center point. (Ref. 3)

"... rotation occurs about a fixed axis located within the head of the capitate, and the location of each axis is not changed by the position of the hand in either plane."

Youm Y, McMurthy RY, Flatt AE, Gillespie TE.
An experimental study of radial-ulnar deviation and flexion-extension.
State-of-the-art articulation

Metal on carbon fiber reinforced PEEK

The Motec Wrist Joint Prosthesis also offers an articulation option where the Metacarpal Head is made from CoCrMo, and the Radius Cup is made from carbon fiber reinforced polyetheretherketone (PEEK Motis™). PEEK Motis has been specifically developed for bearing applications against hard counterfaces, such as CoCrMo.

Benefits of carbon fiber reinforced PEEK

- Exceptional wear performance supported by research and published data
- Extensive testing to ISO 10993 standards demonstrates biocompatibility and biostability for use in long term implant applications
- The thin components allows preservation of bone
- Reduced stress shielding and improved stress distribution
- An alternative to metal-on-metal combinations, which eliminates metal ion concerns
- Demonstrated resistance to gamma sterilization (does not become brittle over time like polyethylene)

Pin-on-plate screening of polymer against hard counterface combinations.
Source: Invibio Biomaterial Solutions

"CFR-PEEK represents an alternative load-bearing material because of its superior mechanical and chemical behaviour without any increased biological activity of the wear particles, compared with a standard load-bearing material."

The Radius Cup is made from a CoCrMo alloy coated with a ceramic CrN coating for extended wear performance and improved biocompatibility.

Metal on ceramic coated metal

The articulation components have been optimized for biocompatibility and minimized wear rate, to reduce the risk of osteolysis typically associated with polyethylene and conventional metal-on-metal bearings.

The Motec Wrist Joint Prosthesis offers an articulation option where the Metacarpal Head is made of cobalt chromium molybdenum alloy (CoCrMo) and the Radius Cup is made of CoCrMo coated with ceramic chromium nitride (CrN).

**Benefits of metal on ceramic coated metal**

- Wear rate is reduced with up to 90% compared to conventional CoCrMo articulation
- In over 400 patients, with up to 12 years of follow-up, no cases of loosening caused by osteolysis have been reported
- The thin components allows preservation of bone
- Reduced stress shielding and improved stress distribution
- Demonstrated resistance to gamma sterilization (does not become brittle over time like polyethylene)
- Metal ions released in blood have been monitored in Motec patients at two independent hospitals. The mean follow up time is 4.6 years. The data shows that the mean amount of cobalt and chromium in blood was 0.7 μg/l. According to MHRA guidelines, the levels of metal ions released in the blood should not exceed 7μg/L for metal-on-metal hip prosthesis. (Ref. 19)

![Graph showing wear rate comparison](image)

Total wear loss of conventional CoCrMo on CoCrMo vs. CoCrMo on CrN.
Source: IonBond AG
Limited bone resection

- **Saves joint space**
  The ball-and-socket components are very much less bulky than conventional polyethylene on metal components. This lack of bulk results in minimal bone resection, specifically the lunate, two thirds of the scaphoid and the cartilage of the CMC-3 joint. In some cases the tip of the radial styloid and/or the triquetrum need to be removed as well.

- **Compatible arthrodesis**
  The limited bone resection ensures that a secondary arthrodesis procedure can be performed without problems. This procedure can also be further simplified by the Motec Wrist Arthrodesis device, which utilizes the existing threaded implants for fixation whenever possible. (See page 12 for details)

Preserves soft tissue and ligament structures

- **Maintained joint stability**
  Most of the soft tissue and ligament structures between the radius, ulna and the carpal bones are preserved, maintaining the natural stability of the wrist. The distal radio-ulnar joint is unaffected by the presence of the wrist prosthesis. The peripheral rim of the distal radius is preserved, along with its important ligamentous and soft tissue attachments.
Improved short term fixation

- **Immediate primary fixation in cortical bone**
  Immediate primary fixation is achieved by threaded implants. The design of the threaded implants has been optimized for maximum bone purchase.

- **Cementless fixation**
  The cementless fixation of the components simplifies the surgical procedure and eliminates potential cement related complications.

- **Promoting bone formation**
  The conical shape distributes the forces evenly into the cancellous and cortical bone, thereby promoting bone formation.

- **Prevents fractures**
  The non-threaded distal 1/3 of the threaded implants prevents fractures by being non-threaded, especially at the isthmus in the third metacarpal. The rounded tip of the threaded implants reduces stress concentration.
Optimized long term fixation and osseointegration

- Optimal blasting of titanium alloy implants improves long term fixation and osseointegration (Ref. 4,17). The titanium surface is blasted with extra pure Al2O3 using a specific technique and to a specific roughness value to maximize the bone ingrowth.

- The titanium alloy threaded implants are coated with Bonit®, a resorbable calcium phosphate combination with proven osteoconductive properties, improving long term fixation.

Without Bonit

Without Bonit there would be a significant reduction in stability 2-5 weeks postoperatively. This dip coincides with the release of the plaster, thereby increasing the risk of loosening.

With Bonit

Bonit promotes early formation of new bone, thereby reducing the risk of loosening. (Ref. 5)

Bonit® is a registered trademark of DOT GmbH.
In vivo biomechanical comparison of Bonit versus Hydroxyapatite

Titanium screws coated with Bonit and screws coated with hydroxyapatite (HA) were implanted in the proximal tibia of a rabbit, for the purpose of comparing the increase of fixation over time.

The fixation of the Bonit coated screws increased significantly over time (6 to 12 to 52 weeks) whereas the screws coated with HA showed no increase in fixation after 6 weeks.

After 52 weeks, the Bonit layer was fully resorbed (Ref. 6).

In contrast to the fully resorbable Bonit, the HA-layer and particles are loosening from the titanium surface. Giant cell, macrophages are visible.

Problems with long term fixation using HA coating on implants have also been shown in a thesis by M. Røkkum (Ref. 18).
Motec Wrist Joint Arthrodesis

In case of failure of the prosthesis due to loosening of the Metacarpal Threaded Implant, continuing pain or abnormal soft tissue balance, the fully compatible Motec Wrist Joint Arthrodesis solution is available as a salvage procedure.

The Motec Wrist Joint Arthrodesis has been developed to overcome the problem of soft tissue irritation and thereby minimize the need for unnecessary implant removal procedures. It has been designed to use the existing osseointegrated implants when possible.

The angle of the Motec Wrist Joint Arthrodesis can be adjusted to 0°, 15° and 30° for flexibility.

The Motec Wrist Joint Arthrodesis can also be used as a primary solution for wrist fusion.
Case

Pre-op. Male 66 years old. Previously operated with lunatum silicon prosthesis. AROM 98°. Jamar: 22 kg grip strength in the operated hand and 38 kg in the other hand.

Post-op.

3 years post-op. Jamar: 36 kg grip strength. AROM 124°. The patient has regained his grip strength, has no pain and is very pleased.

Results

The overall clinical results achieved with the Motec Wrist Joint Prosthesis are very promising. In the end of 2012, more than 400 patients have been operated. The longest follow-up time is twelve years.

Promising one- to six-year results with the Motec wrist arthroplasty in patients with post-traumatic osteoarthritis

Reigstad O, Lütken T, Grimsgaard C, Bolstad B, Thorkildsen R, Rakkm M.


Abstract

The Motec cementless modular metal-on-metal ball-and-socket wrist arthroplasty was implanted in 16 wrists with scaphoid nonunion advanced collapse (SNAC; grades 3 or 4) and 14 wrists with scapholunate advanced collapse (SLAC) in 30 patients (20 men) with severe (grades 3 or 4) post-traumatic osteoarthritis of the wrist. The mean age of the patients was 52 years (31 to 71). All prostheses integrated well radiologically. At a mean follow-up of 3.2 years (1.1 to 6.1) no luxation or implant breakage occurred. Two wrists were converted to an arthrodesis for persistent pain. Loosening occurred in one further wrist at five years postoperatively. The remainder demonstrated close bone–implant contact. The clinical results were good, with markedly decreased Disabilities of the Arm Shoulder and Hand (DASH) and pain scores, and increased movement and grip strength. No patient used analgesics and most had returned to work.

Good short-term function was achieved using this wrist arthroplasty in a high-demand group of patients with post-traumatic osteoarthritis.

Kaplan-Meier survival curve

![Kaplan-Meier survival curve](image-url)
References

Articles


Theses

18. Røkkum M. On Late Complications With Ha Coated Hip Arthroplasties, Department of Biomaterials/Handicap Research, Institute for Surgical Sciences, Faculty of Medicine, University of Göteborg, Göteborg, Sweden and Orthopaedie University Clinic, National Hospital, Oslo, Norway, Göteborg 2001.

Internal document
Pre-operative planning

It is recommended as an important part of the preoperative planning process that the surgeon should be familiar with the anatomy of the carpal area with special attention to the neuromuscular system.

Indications

The system is indicated in cases of pain and reduced motion in the wrist caused by:

- Rheumatoid arthritis
- Degenerative arthritis (osteoarthritis)
- Post-traumatic arthritis (secondary arthritis) after failed treatment of:
  - Scaphoid fractures
  - Scapholunate dissociation
  - Kienböck's disease of the lunate
  - Fracture dislocation of the wrist
  - Intra-articular fractures of the distal radius
  - Intercarpal fusions
  - Proximal row carpectomy

Contraindications

The physician’s education, training and professional judgement must be relied upon to choose the most appropriate device and treatment. Conditions presenting an increased risk of failure include:

- Previous open fracture or infection in the joint.
- Physical interference with another prosthesis during implantation or use.
- Inadequate skin, bone or neurovascular status.
- Irreparable tendon system.
- Inadequate bone stock or soft tissue coverage.
- Any mental or neuromuscular disorder which would create an unacceptable risk or complication during the postoperative care.
- Other medical or surgical conditions which would preclude the potential benefit of surgery.

Surgical technique

1. Position the patient

The patient is placed supine on the operating table with the arm abducted 90 degrees over an arm table. The C-arm is placed at the end of the operating table. Either axillary block or general anaesthesia is recommended. Preoperative antibiotics are recommended.

A tourniquet is applied and inflated. The patient’s arm is prepared and draped according to common practice.

Note! The following images are from a cadaver specimen.
2. Make incision

A 60 mm dorsal incision is made and the extensor retinaculum is exposed.

The extensor retinaculum is split at the Lister’s tubercle.

The two radial wrist extensors and the long thumb extensor are held radially and the finger extensors ulnarly. The capsule is freed dorsally.

The extensor retinaculum is split at the Lister’s tubercle.

The capsule is opened.

There is an alternative surgical approach, called the “Proximal Flap Procedure”, described by M.D. Greg Packer. A step-by-step description of this approach can be obtained from Swemac separately (P125-28-2-20130118).
3. Bone resection

The lunate and two thirds of the scaphoid are removed. Preserve the resected bones on a sterile tissue to allow collection of bone chips if needed.

Two thirds of the scaphoid is removed with a 30 degree volar angle. This preserves blood supply, retains the volar ligaments and prevents impingement between the radial styloid and the remaining volar scaphoid.

4. Preparation of the capitate and the third metacarpal

To facilitate fusion of the two bones, all subchondral sclerosis and cartilage must be removed, using either an oscillating saw or a Gouge forceps. The normal CMC3 joint has a volar angle of approximately 15 degrees. To allow the capitate to be aligned with the third metacarpal, a 15 degree wedge of bone should be resected. Make sure to avoid damaging the volar ligaments.

The wrist is angled volarly and the Hohmann Earwig Retractor is placed beneath the capitate to lift it up. This will close the gap between the capitate and the third metacarpal. The capitate should be fully aligned with the third metacarpal when the above procedure is completed.

Note: When using the oscillating saw, it is important to keep the saw blade cold by spraying sterile water on it.
5. Guide Wire insertion

A sharp tip Guide Wire is used to create a central canal through the capitate and about 10-20 mm into the intramedullary canal of the third metacarpal bone.

When inserting the Guide Wire, make sure to penetrate the capitate pole in the center or slightly volarly. If going too dorsally, there is a risk that the capitate will crack during drilling.

If the canal through the capitate needs to be adjusted, this is best achieved using an Awl.

To ensure proper orientation of the Guide Wire, it is important to have a true A/P and lateral view.

**Note:** The surgeon can use his thumb to put pressure on the CMC-3 joint. This will align the capitate and the third metacarpal.

The sharp tip Guide Wire is then removed and a blunt tip Guide Wire is mounted in the Guide Wire T-handle. It is introduced through the capitate and into the intramedullary canal of the third metacarpal. The Guide Wire should be advanced all the way to the distal subchondral bone.

The advantage of using a blunt tip Guide Wire is that it will not penetrate the cortical wall of the third metacarpal.

The guide wire is introduced until the end of the intramedullary canal.
6. Drilling of the capitate and the third metacarpal

Start by drilling with the small diameter Cannulated Metacarpal Drill. The drill is introduced over the Guide Wire and advanced at reamer speed. Keep the drill cold by spraying sterile water on it. It is easy to drill through the capitate but the hard bone in the third metacarpal is difficult to open up. The drill must be cleaned several times. It is recommended to drill further than the isthmus.

To ensure proper orientation of the drill, it is important to have a true A/P and lateral view.

7. Measuring the drill depth

Drill depth can be taken directly from the cutting flutes of the Cannulated Metacarpal Drill. If no cortical resistance is felt during drilling of the third metacarpal, the drill should be exchanged to the large diameter drill. Push forward to eliminate any gap between the capitate and the third metacarpal when measuring.

It is important that the threads of the implant engage into the cancellous and cortical bone of the third metacarpal, ensuring stable fixation. Always try to pass the isthmus. The Cannulated Metacarpal Drill and the Guide Wire are then removed.
8. Introducing the Metacarpal Threaded Implant

The Metacarpal Threaded Implant should always be implanted at this stage. This will minimize any possible damage to the bone during preparation of the radius.

When introducing the Metacarpal Threaded Implant, it is important to push the implant forward, closing the gap between the capitate and the third metacarpal.

Avoid touching the implant surface. Use a sterile cloth to avoid contact with the patient’s skin and avoid touching the implant with surgical gloves. Use the screwdriver to pick up the implant from the sterile packaging.

The Metacarpal Threaded Implant is inserted until its edge is flush with the proximal pole of the capitate. Insertion is carried out by hand only.

9. Preparation of the radius

The Awl is introduced under image intensification through the joint surface of the radius. It should be placed central in the A/P view and slightly volar in the lateral view.

Note: If the radius is deformed or the bone channel is too narrow, it is possible to use the metacarpal drill with the corresponding Metacarpal Threaded Implant.
10. Guide Wire insertion

The Hohmann Earwig Retractor is placed beneath the edge of the volar ridge to lift the radius. This will facilitate the insertion of the Guide Wire and protect the capitate from the power drill. The Guide Wire is introduced through the hole made by the Awl in the joint surface of the radius.

The orientation of the guide wire is checked under image intensification in both A/P view and lateral view.

11. Drilling of the radius

The Cannulated Radius Drill is introduced over the Guide Wire and drilling is carried out at reamer speed. Gather the bone chips that are collected in the cutting flutes of the drill on a sterile cloth.

If the radius is deformed or the intramedullary canal is very narrow, it is possible to use the Metacarpal Threaded Implant in the radius. In such a case, use one of the Cannulated Metacarpal Drills.

To ensure proper orientation of the drill it is important to check the position under image intensification during drilling. Continue drilling until cortical resistance is felt.

Drill depth 44 mm
12. Reaming of the radius

In most cases, the space between the capitate and the joint surface of the radius is too narrow to allow insertion of the prosthesis. In such a case, it is necessary to ream a cavity for the Radius Cup in the radius.

The appropriate Radius Cup size (15 mm or 18 mm) is selected based on the height of the distal radius. The edge of the cup (15 mm or 18 mm) should not rise above the dorsal radius. The Driver Handle and the appropriate Radius Spherical Drill (15 or 18 mm) are used to ream a cavity for the cup. The Reamer has a mechanical stop that prevents over-reaming.

**Note!** The Radius CFR-PEEK Cup is only available in 15 mm.

13. Determining the correct Radius Threaded Implant size

**If the radius was reamed:** In most cases, use an implant that is one step smaller than the drill depth measured against the joint surface of the radius (e.g. if you drilled 44 mm you would use a 38 mm implant). If uncertain, it is possible to insert the drill and measure against the inner edge created by the reamer.

**If the radius was not reamed:** Use the same implant size as the obtained drill depth measured against the joint surface of the radius (e.g. if you drilled 44 mm, you would use a 44 mm implant).

**Note!** In the cadaver specimen illustrated in this surgical technique there was no actual need for reaming of the radius (enough space for the ball and socket). Therefore the radius implant was inserted flush with the joint surface.
14. Insertion of the Radius Threaded Implant

The Radius Threaded Implant is introduced as far as it will go. Avoid touching the implant surface. Use a sterile cloth to avoid contact with the patient’s skin and avoid touching the implant with surgical gloves. Use the screwdriver to pick up the implant from the sterile packaging.

15. Insertion of the trials

The Radius Cup Trial is inserted in the Radius Threaded Implant. Do not use the Impactor on the trial.

Avoid touching the implant surface. Use a sterile cloth to avoid contact with the patient’s skin and avoid touching the implant with surgical gloves. Use the screwdriver to pick up the implant from the sterile packaging.

To determine the correct Metacarpal Head Trial, start by inserting the shortest trial. Increase the trial size until the right tension has been achieved.

When pulling the fingers, the Metacarpal Head Trial should only just lift from the bottom of the cup. If one size up feels too tight, or if one size down feels too loose, it is possible to slightly adjust the Metacarpal Threaded Implant by introducing it further into the bone. Keep in mind that tension will increase when closing the capsule.
16. Insertion of the Radius Cup

Before introducing the Radius Cup, make sure that the internal Morse taper of the Radius Threaded Implant is clean. The Radius Cup is then inserted into the Radius Threaded Implant. Tap the Impactor gently to ensure firm seating.

Note! Make sure that the Morse taper of the Radius Cup is firmly seated in the Radius Threaded Implant. There should be a 1-2 mm gap between the cup and the bone.

17. Insertion of the Metacarpal Head

Before introducing the chosen Metacarpal Head, make sure that the internal Morse taper of the Metacarpal Threaded Implant is clean. The Metacarpal Head is then inserted into the Metacarpal Threaded Implant. Tap the Impactor gently to ensure firm seating.

Note! It is mechanically possible to reverse the prosthesis, placing the Metacarpal Head in the Radius Implant. This has however not been investigated and can not be recommended.
18. Packing the gap between capitate and third metacarpal

Successful fusion of the capitate and the third metacarpal is absolutely crucial for the long term fixation of the Metacarpal Threaded Implant. To ensure successful fusion, pack the gap using the bone chips that were gathered during drilling of the radius. If necessary, collect additional bone chips from the resected lunate or scaphoid.

If the capitate cracked

If a crack occurred in the capitate during the procedure, pack the crack with bone chips and increase the cast period with about two weeks.
19. Final reduction

The joint is reduced and stability and range of motion is evaluated under image intensification. Haemostasis is obtained after releasing the tourniquet.

In this case there were no signs of impingement during final reduction.

20. In case of impingement

If needed to avoid impingement, the tip of the radial styloid and/or the triquetrum bone is also removed.

When resecting the radial styloid, use a periost elevator to gently loosen the soft tissue. This will help preserve the stability of the wrist.

In this case there were no signs of impingement during final reduction.
Postoperative care

0-6 weeks: Casting for 6 weeks is recommended (first 2 weeks a plaster slab is used) with the wrist in slight extension excluding the elbow, and allowing free forearm rotation, thumb and finger motion. Start early hand therapy during the hospital stay, with finger, forearm, elbow and shoulder motion. At approximately 2 weeks the slab and sutures are removed and a circular cast applied for additional 4 weeks. If there is any problem with upper extremity motion the patient receive hand therapy.

6 weeks: The cast is removed (and radiographs taken), and active and passive wrist motion in all directions is instructed and encouraged. Free weight-bearing is allowed if possible.

6 months: Radiographs are taken and ROM/grip strength/VAS pain is recorded. If the patient have a slow progression, the hand therapist is involved. The patient is further followed at 1 year and yearly thereafter with radiographs and recording of ROM/grip strength/VAS pain. The improvement halts between the 2 and 3 year. Further follow up according to the doctors preference, but should include a 5 and 10 year appointment.

Note: The postoperative regime has been recommended by Dr. O. Reigstad, Rikshospitalet, Hand and Microsurgery Section, Orthopaedic Department N-0027 Oslo, Norway.
# Implants

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Notes:
- • Needed for CFR-PEEK articulation
- ○ Needed for CrN-CoCrMo articulation
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<td>Trial Metacarpal Head</td>
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<tr>
<td>Instruments</td>
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<td>-------------------------------------------------</td>
</tr>
<tr>
<td>Hohmann Earwig Retractor</td>
</tr>
<tr>
<td>Hex Driver Tip</td>
</tr>
<tr>
<td>Impactor</td>
</tr>
<tr>
<td>Guide Wire T-handle</td>
</tr>
<tr>
<td>Cup Remover</td>
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<tr>
<td>Cannulated Radius Drill</td>
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<tr>
<td>Cannulated Metacarpal Drill</td>
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<tr>
<td>Cannulated Metacarpal Drill</td>
</tr>
<tr>
<td>Guide Wire with sharp tip</td>
</tr>
<tr>
<td>Guide Wire with round tip</td>
</tr>
<tr>
<td>Radius Spherical Drill</td>
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<tr>
<td>Radius Spherical Drill</td>
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<tr>
<td>Tri-lobe Driver Handle</td>
</tr>
<tr>
<td>Tri-lobe Ratchet Driver Handle (optional)</td>
</tr>
<tr>
<td>Adapter</td>
</tr>
<tr>
<td>Hammer</td>
</tr>
<tr>
<td>Awl</td>
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<tr>
<td>Tray and lid</td>
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IFU
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