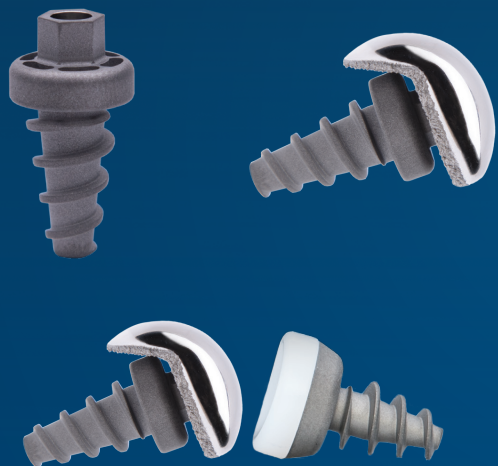


When Synthetics Fail, Preserve Motion With The BOSS!



Features & Benefits:

- ▶ Immediate Rigid Fixation in Cases with Metaphyseal Bone Loss
- ▶ Fills the 10mm Distal Bone Void Left Behind
- ▶ Maintains Stability & Preserves Motion
- ▶ Preserves Length and Mechanical Axis
- ▶ Specifically Engineered Fixation for Distal Bone Voids

#STAYACTIVE



MAMIE

*Revised Her Synthetic Cartilage Implant to ToeMotion!

 ToeMotion®

 arthrosurface®
#STAYACTIVE

 HemiCAP®

Special Considerations For Cartiva Revision

Preoperative Considerations

In order to ensure best results when replacing a Cartiva implant with an Arthrosurface DF or ToeMotion equipped with the BOSS screw, it is important to consider a few key points before the surgery

- Familiarize yourself with the traditional approach of inserting the Arthrosurface DF or ToeMotion prior to attempting a Cartiva revision.
- Pre-revision xrays should be carefully assessed for 1st and 2nd metatarsal length to maintain the parabola, as well as elevatus of the 1st ray if present in order to plan for proper joint decompression and alignment.
- Severe sesamoid arthritic issues/hypertrophic sesamoid issues may exist as a result of previous procedures. These conditions may mask the benefit of the BOSS™ Toe Fixation Component. This should be carefully assessed by the surgeon and discussed with the patient.
- Any degenerative changes that have occurred to the metatarsal head or phalangeal base will have to be considered. Impact of the Cartiva implant on bone, soft, or connective tissues or any issues with the surgical wound site should be carefully assessed. Surgeon should be confident that adequate tissue quality exists to support the BOSS™ Toe Fixation component and allow for effective wound closure. There are various lengths of the Arthrosurface Fixation Components that can be available, as well as bone void fillers and cement that may be needed.
- Since this will be a revision, you should expect to encounter a significant amount of scar tissue with adhesions of the joint capsule to the metatarsal head. Having adhesion barrier products or amniotic tissues available can help prevent this during the postoperative recovery period.
- Patient should be infection free for previous 6 months.

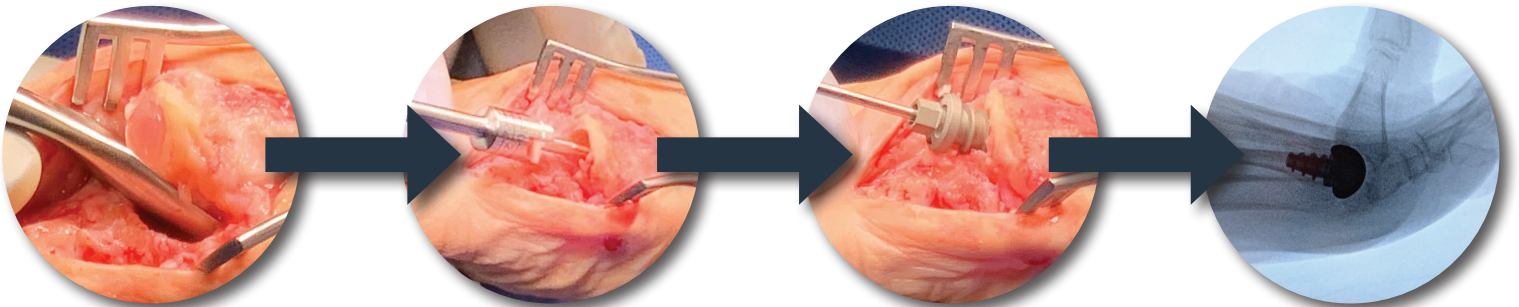
Technique Considerations

- Fluoroscopy is highly recommended for this procedure.
- Carefully preserve the joint capsule to ensure the implant will be completely covered and the joint protected
- Ensure full circumferential release of the metatarsal head from the sesamoid apparatus as well as the joint capsule. Adhesions can occur from all sides of the metatarsal, therefore generous use of the McGlamry Elevator will assist in freeing up these tissues. Perform aggressive soft tissue releases along lateral, medial and plantar margins of the joint to facilitate restoration of range of motion. Pay particular attention to freeing adhesions impacting sesamoid movement.
- Upon removal of Cartiva SCI implant, examine the temporary bone void. It may be necessary to address bone void with a bone void filler prior to BOSS™ Toe Fixation technique steps. Carefully assess whether bone void volume is excessive, is beyond BOSS™ Toe Fixation component area, or is not located generally along mechanical axis.
- Guide Pin placement coaxial to 1st ray mechanical axis is critical. Confirm Guide Pin placement with fluoroscopy in both lateral and AP planes before proceeding with BOSS™ Toe Fixation procedure steps.

- Utilize the BOSS™ Toe Fixation Reamer to prepare implant bed for BOSS™ Toe Fixation component. Run Reamer at full speed and gradually contact bone surface to prevent bone chipping. The depth of ream indicator allows the surgeon to control for surgical concerns such as 1st ray shortening (ream to the “0” indicator) or joint decompression (ream to the “2” or “3” indicator).
- Gradually and carefully advance BOSS™ Toe Fixation component, frequently checking depth using the plastic Trial Cap. Use care to not overtighten and strip the BOSS™ Toe Fixation component threads.
- Confirm BOSS™ Toe Fixation component placement with fluoroscopy before proceeding with the HemiCAP® DF or ToeMotion® procedure.
- Confirm final HemiCAP® DF implant placement with fluoroscopy, observing sesamoid tracking. Address plantar metatarsal surface at implant margin to ensure smooth sesamoid tracking.
- Ensure 80-90 degrees of total joint range of motion without crepitus prior to joint capsule closure. If this is not obtained, double check for soft tissue adhesions, bone prominences, or consider further decompression on the metatarsal head or phalangeal base.
- Assess need for concurrent procedures.

Closure Considerations

- Close incisions in layer by layer fashion.
- Protective capsule closure is necessary to prevent adhesion of skin or tendon structures. If soft tissue coverage over implant is compromised, a biologic dressing is recommended to prevent adhesion of skin to implant or extensor tendon to implant.
- Skin closure can be best obtained by using interrupted suture techniques that will allow for flexion and extension of the joint early in the post operative period, and prevent restriction of motion from running suture techniques. Nylon or Prolene suture is recommended for skin closure as running absorbable stitch may be more likely to dehisce.
- The use of Vancomycin (or similar) placed on subcutaneous and skin surfaces when closing to decrease incidence of postoperative infection is recommended.



Postoperative Considerations

After the procedure, this postoperative protocol can help to maintain the quality and quantity of motion that you were able to accomplish intraoperatively.

- Immediate heel weight bearing can be permitted with use of a short CAM boot (not a shoe) as to better protect the surgical site. Weight bearing focused on heel pressure protects the forefoot better than a postoperative shoe.
 - If significant osteopenia was encountered during surgery, non weight bearing should be strictly enforced for the first 2-3 weeks.
- Persistent use of ice after surgery will help to decrease swelling as swelling will impede early range of motion, if present.

Week 1:

- Dressings are changed. ROM exercises and PT are started as long as the incision is healing well with no signs of dehiscence, and initial postop xrays show good alignment.
 - Demonstrate to the patient proper isolation of the metatarsophalangeal joint (not the interphalangeal joint) for maximum benefit.
 - Dorsiflexion to maximum tolerance and hold for 20-30 seconds, then repeat for plantarflexion
 - Repeat this 10-15 times per session, and do 3-4 sessions per day.

Week 2:

- Stitches are removed and replaced with steri-strips at 10-14 days, if no signs of dehiscence.
- Showering can be permitted at week 2. No submersion or soaking in a bath tub, pool, hot tub, etc.
- Athletic shoes can be started gradually and progressively around weeks 2-3 to tolerance depending on swelling and comfort.

Weeks 3-6:

- Patients are in regular shoes; most limitations are soft tissue swelling from surgical procedure. Continue to gradually increase activity of daily life as tolerated.

Week 6:

- Perform xray at 3 months to ensure no early malalignment or other complications occur.

1 Year:

- 1 year follow-up to make sure implant has not subsided and poly wear has not occurred.

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Boss™ Toe Fixation system and considerations developed in conjunction with:

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