

CARTIVA

Great Toe Joint Replacement

The Concept & The Background

The CARTIVA implant is a novel option open to Foot & Ankle surgeons in the treatment of Osteoarthritis of the great toe MetaTersoPhalangeal Joint (MTPJ).



[Click for Official CARTIVA Brochure](#)

Cartiva is synthetic cartilage implant that is designed to replace a section of the damaged cartilage surface and act as spacer separating the two worn surfaces. It is made from polyvinyl alcohol (PVA), a material that as close as possible mimics the properties of natural cartilage. As a substance it has been used in medical devices for more than 20 years. However, this procedure is relatively new

The aim of CARTIVA and proposed lead benefit is to preserve if not improve the range of motion of the arthritic joint along with pain relief and improved mobility. CARTIVA motion preservation is in advantage to the standard Great Toe MTPJ fusion surgery where all motion is obliterated.

Click here for information on [Great Toe MTPJ Fusion](#)



- [Great Toe MTPJ Fusion](#) vs [CARTIVA Implant](#)

What is evidence supporting its use?

It is backed by a randomised controlled trial undertaken in international centres across the UK and Canada. The results of this study are published publically with 2 year follow-up in the 'MOTION' trial and some 5 year results are available in the professional literature.

The 2 year results are shown in the brochure accessed by clicking the below hyperlink.

[CARTIVA at 2yrs](#)

5 year results from trial available by clicking below

[CARTIVA at 5yrs](#)

In this trial it was compared against the gold standard operation of Great Toe MTPJ Fusion. At 2 years 9 per 100 patients had to have the implant removed and further surgery to fuse the joint.

There is no question that if this product survives the test of time and preserves comfortable motion at the joint (with no side effects) it will also help protect other foot joints and walking gait function. This could be a very good thing. The jury is still out on how long the device will last though and whether there will be problems down the line.

Mr. Williams chooses to offer this procedure upon request but still promotes the [Great Toe MTPJ Fusion](#) as a tried and tested gold standard procedure that suits the vast majority of patients.

What is involved in the CARTIVA operation?

- It is a daycase procedure. – Home the same day
- Performed under General anaesthetic or Local Anaesthetic with sedation
- Xrays are sometimes used to assist the insertion
- It takes approximately 45mins to do
 - The joint is accessed through a 5-7cm incision along the side of the toe
 - The joint is trimmed of all prominent bony spurs ([A Cheilectomy](#))
 - The hole is drilled in to the bone and the implant pushed in. It is left 2-3mm proud of the surface.
 - The wound is closed with absorbable sutures

What is the Recovery Like?

- Your foot will be wrapped in a compressive bandage protecting the wound for 2 weeks.
 - No Work, No driving...just rest with “Toes above your Nose”
- At 2 weeks if all is well you will commence physiotherapy encouraging early motion of the joint .
This is very important to optimise the result and keep any scar tissue that forms as supple as possible.
- You can consider driving and work by the 3rd week if comfortable.
- Return to gentle sports at about 6 weeks as comfort allows

What is possible if it doesn't work?

- If pain persists and the Arthritis still is a problem then the CARTIVA can be converted to a [Great Toe MTPJ Fusion](#).
 - This is reported in the MOTION study as successful
 - It is one of the advantages of this implant over historical larger ones.

What are the Risks of CARTIVA

- **Bleeding**
 - This is rarely a problem and settles with initial rest and elevation in the bandage.
 - Should you see visible bleeding then alert a member of the ward or surgical team
- **Infection**
 - Skin / Wound infection occurs in about 1:20 foot surgery cases and should settle with tablet antibiotics. A deeper infection in the joint or around the implant is more serious and may affect the success dramatically. This is rare.
 - you see redness or pus apparent let the team know
- **Nerve Damage**
 - In order to get to the joint a knife cut must be made through the skin and soft tissues. The wound therefore will be a bit tingly initially but should settle. Occasionally a larger nerve is irritated or damaged leaving a numb or hypersensitive patch.
 - Should you have prolonged altered sensation in the toe let the team know.
- **Persistent Pain**
 - This technique is not a guarantee and some patients are not havng resolution of their pain as reported in the trial
- **Stiffness**
 - Initial stiffness should settle wit rehabilitation but occasionally it persists and can be a reason for failure with further surgery considered

- **Swelling**
 - Initially it will swell. This should settle in the first 2-6 weeks. Occasionally it can take longer but should resolve.
- **Complex Pain Syndrome**
 - An unusual over-reaction of the body to the insult of surgery that sees pain out of proportion to expected despite technically everything having gone well. This is rare but can be frustrating to manage.
- **Implant Wear**
 - Like any surface that rubs against another it will eventually wear out. The only question is after how long. Hopefully this will work for many years but it could wear out with recurrent pain much sooner.
- **Implant subsidence**
 - The implant rests in the hole of the metatarsal but repeated pressure on it from use can occasionally cause it to sink further in to the bone with resultant arthritis pain returning.
- **Allergy to Implant**
 - Rare but would result in pain, itching, swelling and possibly a rash that requires removal of the implant to stop.
- **Thrombosis/DVT/Blood clots.**
 - A rare risk with this operation, however you will be given advice regarding early other joint mobilisation, ensuring you stay hydrated and the use of special stockings.

Should you ever get unremitting calf pain or swelling, chest pain or shortness of breath seek urgent medical attention

- **Loss of Toe** – An extremely rare risk as a consequence of bleeding or infection but mentioned for completeness.

What has been Mr. Williams Experience with CARTIVA?

“ I have found that about ½ of the patients I have performed this on have comfortable recovery returning swiftly to function with good toe motion. A smaller percentage of patients get there but the recovery is slower with swelling and soreness lasting a few months but overall they seem pleased. I have yet to remove an implant but 1 patient is considering this”

Mr. Williams has undergone the official training in CARTIVA at the BOFAS conference in Guildford 2015 and continues to offer the surgery upon patient request.