

Tibio-Talo-Calcaneal (TTC) Fusion

INTRODUCTION

Like all joints the ankle and the subtalar joints can be affected by various types of arthritis or deformity. With the passage of time arthritis leads to increasing pain, swelling and stiffness, resulting in a hindfoot that does not function well. Tibio-talo-calcaneal (TTC) fusion is an effective way to relieve the pain of hindfoot arthritis, correct deformity and improve function. The fusion is achieved in most cases using a hindfoot nail that is inside the tibia, talus and calcaneum bones.

THE SURGERY

TTC fusion surgery involves a number of steps:

- General anaesthetic, nerve block and IV antibiotics
- Tourniquet around the thigh
- Long incision over the outside of the ankle joint
- Removal of any remaining cartilage
- Bone graft harvest (usually from proximal tibia)
- Insertion of bone graft into the ankle and subtalar joints to stimulate fusion
- Insertion of hindfoot nail through sole of the foot
- Fixation with screws to the tibia, talus & calcaneum
- Closure of incision with sutures
- Application of plaster cast

GUIDELINES FOR POST-OP RECOVERY

HOSPITAL ADMISSION

- In hospital for ~2 nights, IV antibiotics

FIRST 2 WEEKS

- Elevate foot and rest
- Strictly NON-WEIGHTBEARING in plaster cast
- Mobilise with knee scooter/crutches/frame
- Cast and dressings to stay dry and intact
- Strong painkillers as required
- Aspirin 100mg, Vit D 5000 units and Vit C 1g per day
- Antibiotics for 5 days
- Wiggle toes to encourage circulation

2 WEEK POST-OP APPOINTMENT

- Nurse review: removal of cast, dressings and sutures
- Change to VACOCast surgical boot

WEEKS 3-6

- Strictly NON-WEIGHTBEARING in boot
- Surgical boot on at ALL times, including in bed and showers, except to change boot liner
- Keep ankle and boot dry at all times
- Mobilise with knee scooter/crutches/frame
- Elevate foot when resting
- Continue Aspirin, Vitamin D and Vitamin C
- Wiggle toes to encourage circulation
- Physiotherapy review (arrange first appointment for 2-5 days after the 2-week post-op check)
- **PHYSIOTHERAPY:**
 - General upper body, core, hip and knee exercises

6 WEEK POST-OP APPOINTMENT

- X-ray and review by Dr Zilko

WEEKS 7-12

- Surgical boot on at all times during the day except for physio/exercises
- Can sleep out of boot at night
- Can shower out of boot whilst on shower chair
- Elevate foot when resting
- Continue Aspirin, Vitamin D and Vitamin C
- **PHYSIOTHERAPY:**
 - Commence partial weightbearing in surgical boot with crutches/frame, and progress up to full weightbearing as tolerated
 - Commence gentle passive and active ROM of midfoot and forefoot joints
 - Soft tissue massage and scar mobilisation

12 WEEK POST-OP APPOINTMENT

- X-ray and review by Dr Zilko

FROM 12 WEEKS

- **PHYSIOTHERAPY:**
 - Transition out of boot into normal supportive shoes
 - Gait re-training
 - Continue lower limb strength and conditioning

Full recovery is usually 9-12 months.

Every patient's recovery is individual and depends on the severity of the injury/disease and complexity of the surgery.