

# ArtAssist® Case Report

*Diabetic limb salvage using the Arterial Assist Device™...ArtAssist®*

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## Patient

- 66 Year Old Male
- 35 Year Hx of Diabetes
- Renal Failure
- Contralateral Tibial Bypass
- Poor Ambulation
- Small Vessel Disease

## Past Therapies

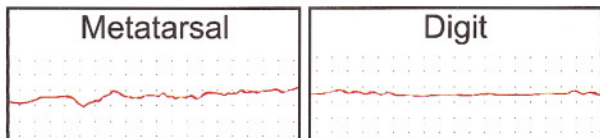
- Amputation Great Toe/  
Metatarsal I
- Platelet Released Growth  
Factors
- IV and Oral Antibiotics
- Topical Antibiotics
- Surgical Debridements

## ArtAssist® Device

- Applies Compression to Foot,  
Ankle and Calf Up to 100mmHg
- Home Use for 30 min. QID
- Well Tolerated on Sitting Patient
- Improved Circulation
- Prepared Foot For Revision  
Surgery

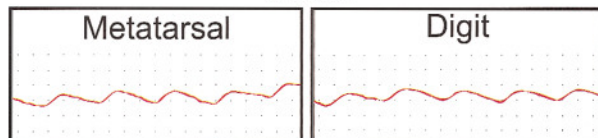


Before



Pulse  
Volume  
Recordings

After



**A** 66 year old man with a 35 year history of diabetes (NIDDM) and chronic renal failure (peritoneal dialysis) presented with dry necrosis of his right great toe. He ambulated very little outside of his home and he had previously undergone a tibial bypass of the opposite leg. He was being treated with platelet released growth factors for poor healing of his left distal ankle incision. Ankle blood pressure was not obtainable due to non-compressibility, but wave forms were consistent with disease of the small vessels distal to the knee. The metatarsal pulse volume recording† is shown and is essentially flat. Toe-pressure was in the ischemic range.

The patient underwent repeated selective digital intra-arterial angiography, which demonstrated patent arteries to the level of the ankle only, without named run-off vessels in the foot. After explaining the poor chances of healing of a toe amputation to the patient, he underwent amputation of the right great toe and metatarsal head. Treatment with the ArtAssist device was not available at the time. The toe amputation failed and complete dehiscence, with exposed metatarsal bone was apparent.

Debridements and immediate treatment with growth factors were instituted. Further deterioration occurred slowly. Further revision foot amputation was not considered to be a worthwhile option and below-knee amputation would be the next surgical step.

Intermittent compression with the ArtAssist device was started two months after the toe amputation for at least 30 minutes, QID. Compression was well tolerated and after one week of home treatment, the patient noticed blood on his dressings. Slowly some granulation tissue appeared and the wound edges bled well with minor debridements. Improvement of the metatarsal pulse volume recording was noted. In view of the exposed metatarsal bone, with retracted skin edges, a further resection of Metatarsal I and the adjacent second toe was performed after two months of compression therapy. Oral antibiotics were given based on culture results. The growth factor treatment was stopped. The resulting wound is now healed by secondary intention. Further improvements occurred in the pulse volume recording at the metatarsal level, to the same amplitude as the bypassed side.

†Parks Flow-Lab



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