

Transcutaneous Endo-Prosthetic Reconstruction For Amputees- Current State of the Art

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Introduction

- Overview
- Dental origins
- Swedish experience with a screw-type orthopaedic implant
- German experience with a CoCr press-fit implant
- Australian experience with a Ti press-fit implant

Patient Selection & Diagnostics

- Trauma vs. Tumor vs. Vascular vs. Congenital
- Selection criteria and technical considerations
- Principal indication – difficulty using/fitting a standard socket-style prosthetic mount
- Trans-femoral vs. Trans-tibial
- X-ray, CT, and DEXA scans preoperatively
- Peer-to-peer interactions
- Multi-disciplinary patient evaluation
- Pain management, psychological assessment, prosthetists input, physiotherapists, nursing, and surgeons opinion all equally weighted

Surgery & Implant Development

- Single stage vs. two stage surgical procedures with accelerated rehabilitation
- Arthroplasty applications with osseointegration implants
- Recent history and new developments
- Evolution of the procedure
- Soft-tissue handling
- Current “state of the art” techniques

Rehabilitation

- Prehabilitation, preparing for reconstructive surgery
- Rehabilitation outcomes of osseointegrated prosthesis compared to socket prosthetics for lower limb amputees
- Prosthetics and management for the osseointegration patient
- Physiotherapy regimes and results with accelerated protocols

Monitoring Results: Measuring Outcomes Through a Common Database

- Demographic data, functional evaluation, patient reported subjective outcomes
- Clinical results in unilateral trans-femoral amputees (OGAAP-1 paper – published Bone and Joint Journal, July 2016)

Follow-up & Complication Management

- Pain management in osseointegration, observations and data
- Dutch-Australian series: a clinical results presentation (The “Safety Paper” – published JBJS American, June 2016)
- Managing the risk of infection
- Infection grading system
- Peri-prosthetic fractures
- Revision surgery

Conclusions and Future Directions