

Hand Replantation: Rehabilitation (including early active motion) and excellent Functional outcome

Wendy Young, Mahendra Daya, Pragashnie Naidoo, Vicki Hofmann
UKZN, Durban, Westville, KZN, South Africa

Introduction: This presentation discusses the rehabilitation and excellent functional outcome of a young man who sustained a complete avulsion amputation of his dominant upper limb in Zone 5. His hand was replanted with 2cm bone shortening and he was referred to Occupational Therapy for early controlled active motion on day six.

Method: This is a retrospective case study. Patient had 65 sessions of Occupational Therapy in the first year which included, but was not limited to, early active and passive range of motion, many custom moulded orthoses, functional retraining and sensory re-education. No additional reconstructive procedures were performed.

Results: At one year post, he had excellent range of motion, with almost full flexion and extension of the digits, ability to oppose thumb to all fingers, good intrinsic return, 32% power grip strength, protective sensation and mildly impaired co-ordination (30 seconds on 9 Hole Peg Test). He had achieved an excellent result according to Chen's criteria, with the exception of only partial sensory recovery. Subjectively, the patient was highly satisfied and was managing well at work.

Conclusion: This begs the question: "should we consider a re-look at current replantation protocols that often start active range of motion at four weeks post surgery?" Many centres use this 2011 replantation protocol. Whereas, early active motion at 5-7 days post, has been previously described by Papanastasiou in 2002. The author recommends a prospective trial be done in view of greater bone shortening with early active motion.