

Revascularisation/Replantation

First aid treatment and referral pathways

- For all first aid measures see Hand Injury Triage guidelines at https://www.bssh.ac.uk/hand_trauma_app.aspx
- Referral category red – The case should be discussed urgently with a specialist service with immediate transfer for assessment if indicated.

Consent – principle of shared decision making

- Discussion with the patient should include all options, an outline of their rehabilitation requirements for each option, and the likely outcomes
 - Discussion of likely treatment programme and outcomes
- The patient's values, occupation and hand function requirements should be discussed and considered in a joint decision making process
- Examples of this:
 - Whether to replant or amputate a single digit in a manual worker
 - Whether to replant in zone II
 - Implications for time off work and hand therapy

Decision making documentation

- The factors that have been considered in making a management decision should be documented, particularly where the surgeon and patient have agreed an option that might not be a common approach

Non-operative management options

An entirely non-operative approach would rarely be advised

Minimal procedures might include wound washout and closure of amputation. Where this option is selected the patient should have access to hand therapy for supervision and rehabilitation.

Operative management requirements (when replantation is opted for)

Timing

- Within 24 hours for a digit, 4 hours for any part with muscle involved

Staff

- Done by a surgeon who has microsurgery expertise or supervised by them and done by a surgeon with microsurgical skills
- The scrubbed member of theatre staff (ODP or Scrub nurse) should be familiar with microsurgical instrumentation

Environment

- Replantation or revascularisation surgery should take place in a designated operating theatre using an operative microscope

Equipment

- Hand surgery instrumentation
- Appropriate fracture fixation equipment
- Intra-operative X-Ray facilities
- When needed, Tourniquet and the associated infrastructure

Additional measures

- The use of pharmacological agents to reduce nerve pain should be considered, and where appropriate started early
- Antibiotics should be used peri-operatively with choice of agent as per local guidelines for an open fracture

Therapy requirements

- Access to a competent hand therapist who will provide support and instruction to regain range of motion at the appropriate speed
- Inpatient care should be used initially to monitor the revascularised part and provide early therapy interventions

Outcomes to be expected

The range of injuries is too great to have a meaningful outcome expectation for individual cases

Audit

- Regular or rolling audits of
 - Infection rate
 - Rate of removal of metalwork
 - Number of hospital visits/interventions
 - Functional outcome at 3 months
 - Late amputation rate

References

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