BSSH The British Society for Surgery of the Hand

Closed hand fractures

Hand fractures are common and can result in significant pain and disability if not treated well. The potential outcome is predicated by the original injury but the aim is to achieve infection free union with good soft tissue coverage and a functional range of motion.

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 green – next available clinic (real or virtual) within 72 hours

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
- 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 amputate, fuse or salvage a comminuted joint fracture

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
- Operative intervention should only be selected where the outcome will be superior to the non-operative management options

Non-operative management options

Non-operative management is appropriate for most closed fractures in the hand. Plaster technicians competent to provide hand splints or immediate referral to hand therapy should be available.

Where this option is selected the patient should have a clear follow up plan with early referral to hand therapy for supervision of their fracture management and assistance in regaining their range of motion.

Operative management requirements

Timing

- Within 7 days of injury when fixation is the first choice
- Within 72 hours of the decision to operate where conservative management has failed.

Staff

- Done or supervised by a surgeon who is competent in the fixation of hand fractures
- An ODP or scrub nurse who is familiar with the equipment is required
- For more complex procedures, an assistant will also be needed

Environment

- Fracture fixation involves the insertion of metalwork into bone. It should therefore be carried out in a designated operating theatre with the appropriate number of air changes

Equipment

- Light
- Hand surgery instrumentation
- Appropriate fracture fixation equipment and implants
- Intra-operative mini C arm Xray facilities with images appropriately stored in PACS for later reference
- When needed, tourniquet and the associated infrastructure

Additional measures e.g. antibiotics

- Antibiotics should be given pre-operatively or intra-operatively when metalwork is inserted

Therapy requirements post-operatively

- Access to a competent hand therapist who will provide support and instruction to regain range of motion at the appropriate speed.
- Early mobilisation should be the default plan and instructions for early mobilisation of the fracture should be given to the patient pre-operatively so that they can start moving whilst waiting for their first therapy appointment after surgery.
- The first visit to a therapist should take place 5-7 days after surgery, before adhesions become established, unless otherwise specifically advised by the surgeon
- The therapist should have an easy route of communication with and rapid access to the surgical team

Audit

- Regular or rolling audits of
    - Infection rate
    - Rate of re-operation; e.g. removal of metalwork, tenolysis and osteotomies
    - Number of hospital visits/interventions
    - Functional outcome at 3 months, ROM‹ pain and PROM

References

Federation of European Societies for Surgery of the Hand Instructional Courses 2017. Evidence Based Data In Hand Surgery And Therapy http://fessh.com/down/Evidence%20Based%20Data%20In%20Hand%20Surgery%20And%20Therapy.pdf

Hand Surgery: Therapy and Assessment (Oxford Specialist Handbooks in Surgery) 2nd Edition. Edited by David Warwick and Roderick Dunn 2018. Oxford University Press

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