STANDARD TREATMENT WORKFLOW (STW)

Supracondylar Fracture of Humerus in Children

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CITATION

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Goel SC, et al.: Supracondylar Fracture of Humerus in Children

**Standard Treatment Workflow (STW)**

**SUPRACONDYLAR FRACTURE OF HUMERUS IN CHILDREN**

ICD-10-S42.413A

**Clinical Presentation**
- Pain, swelling and loss of movement at elbow
- Most commonly in children aged 5-7 years
- Fall on outstretched arm
- Fracture is just above the epicondyles of humerus (upper limb)

**Gartland Classification of Supracondylar Fractures**
- Type I: Un-displaced fracture
- Type II: Displaced fracture with variable angulation, posterior cortical continuity of humerus preserved
- Type III: Completely displaced fractures with cortical discontinuity. Soft tissue gap variable

**Examination**
- Swelling
- Deformity
- Ecchymosis
- Limited active and passive elbow motion

**Digital Neurovascular Examination (Always compare with normal limb)**
- Assessment of radial pulse
- Assess vascular perfusion
- Warm and pink vs Cold and pale

**Investigations**
- Radiographs: AP and lateral x-ray elbow. The comparative x-ray of contralateral elbow should be done. If suspicion is strong and x-ray of injured elbow supports normal
- Immediate arterial doppler/CT angiography (in case of suspected vascular injury)

**Essential**
- Management of open fractures
- Management of closed fractures if x-ray not available follow the similar management in situations of suspicion

**Primary Care**
1. Immobilization: Above elbow under padding cast with 90 degree elbow flexion for three weeks
2. X-ray at 3 weeks to assess for displacement
3. Pain management
4. Splinting using triangular sling/lateral elbow sling/well padded moulded cramer wire splint in the position of deformity
5. If vascular injury is suspected it should be treated as an emergency

**Secondary/Tertiary Care**
- All of above plus reassesses patient
- Pain on passive stretching
- Paralysis
- Paresthesia
- Blunting
- Reduced sensation

**Keep a High Threshold for Invasive Procedures**

This STW has been prepared by health experts of India with feasibility considerations for various levels of healthcare system in the country. These broad guidelines are advisory and are based on expert opinion and lack of scientific evidence. There may be variations in the management of an individual patient based on his specific condition, as decided by the treating clinician. For more information, visit the website of MoHFW for more information.

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