SOP title	Management of humeral shaft fracture
SOP number	
Version number	V1
Effective date	
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Approval date	
Distribution	All senior medical staff and ENPs
Location	CHFT ED cross-site

Inclusion criteria – all closed neurovascularly intact adult humeral shaft fractures excluding intra-articular fractures of either the proximal or distal humerus, and surgical neck of humerus.

Current management involves application of Plaster of Paris U-slab which is then replaced in fracture clinic approximately one week later to a humeral brace. This SOP is designed to improve patient satisfaction and comfort, and reduce follow up requirements by applying a humeral brace within the ED on the first presentation.

If unsure whether or not the fracture if appropriate for humeral brace management, the patient should be discussed with the on call Orthopaedic team.

Management

1) Identification of humeral fracture on radiograph appropriate for management with a humeral brace
2) Ensure adequate analgesia pre-application of brace
3) Application of brace as per instructions available (or can direct to plaster room in hours)
4) Repeat radiograph to check position of fracture
5) Discharge with patient advice and virtual fracture clinic appointment (unless inappropriate for virtual fracture clinic

Humeral brace application

1) Open packet – should contain black humeral brace and blue sling. Size is based on mid humeral circumference and brace length, as per chart available. The hypoallergenic fabric casing holds two plastic shells – the inner shell should be removed and trimmed if concerns of pressure to inner elbow BEFORE applying the brace to the patient (either measure or try opposite arm).

2) Lengthen the chest strap as long as possible and unclip the clip that will be fastened behind the patient.

3) Crocodile Velcro fasteners are on the end of each strap. In order to stretch the brace to make it easier to apply, curl the crocodile fastener back on each adjustment strap and place your hands in the brace to stretch it out.

4) This brace should be placed underneath clothing so that the patient does not attempt to remove it at home. Encourage the patient to drop the affected arm down by their side and glide the brace up the arm. If there is a lot of resistance, a change in brace size may be required. Bring the brace up so that the outer shell is covering the shoulder and hold in place.

5) Whilst holding the brace in position, bring the chest strap around the body and clip together ensuring it is over the chest and not beneath breast tissue. Remove any slack in the chest strap by using the crocodile fastener. If the crocodile fastener position ends up being in the axillary area where it may cause friction, remove the crocodile fastener completely and trim the chest strap so that the fastener ends up on the back rather than the axilla.

6) Use the adjustment straps on the brace to tighten the brace, making sure that opposite straps and pulled at the same time to maintain tension. Both upper and lower adjustment straps must be tightened.

7) With the towelled side of the sling touching the patient's back, attach to the posterior aspect of the brace and bring over the opposite shoulder. Bring the elbow of the braced arm to 90 degrees flexion and rest in the sling using the Velcro to attach the sling to itself. The wrist must be resting in the sling, not the forearm, to prevent wrist drop.