PROCEDURE CHECKLIST

Anterior shoulder dislocation: reduction

Closed reduction of an anterior glenohumeral dislocation in the emergency department, with a documented neurovascular examination before and after and a clear list of cases that must not be attempted.

EM Orbit

Patient reference | Date | Time | Completed by

Equipment ready

- [ ] Resuscitation-capable area with ECG, non-invasive blood pressure, pulse oximetry and capnography if sedating
- [ ] IV access
- [ ] Sedation and analgesia drugs, airway equipment and reversal agents per procedural sedation guideline
- [ ] Alternatively lidocaine 1% plain, syringe, 21–23 G needle and skin antiseptic for intra-articular injection
- [ ] Sheet or wide bandage for traction-countertraction, and a second assistant
- [ ] Prone-capable trolley or chair, and pillows, for scapular and Cunningham techniques
- [ ] Sling and swathe or immobiliser
- [ ] X-ray access (anteroposterior and scapular Y or axillary views)

Before · Assessment and imaging

- [ ] Confirm the mechanism, time of injury, previous dislocations, seizure or electric shock (posterior dislocation risk), anticoagulants and prosthesis.
- [ ] Look for the classic anterior pattern: squared-off shoulder, prominent acromion, arm held slightly abducted and externally rotated, patient supporting the arm.
- [ ] **Examine and document the distal neurovascular status before any manipulation: radial pulse, capillary refill, hand temperature and colour.**
  Compare with the other side.
- [ ] **Test the axillary nerve: sensation over the lateral 'regimental badge' area of the shoulder, and deltoid contraction by palpating the muscle while the patient attempts isometric abduction.**
  Active abduction is limited by pain and the dislocation, so test sensation and isometric contraction rather than range.
- [ ] Test the musculocutaneous nerve (sensation over the lateral forearm, elbow flexion), and radial, median and ulnar function in the hand.
- [ ] Examine the whole upper limb, clavicle and cervical spine for associated injury.
- [ ] Obtain anteroposterior and scapular Y (or axillary) views before reduction in first-time dislocation, older patients, high-energy injury, suspected fracture, or when the pattern is atypical.
- [ ] Check the films for fracture of the humeral head or neck, greater tuberosity or glenoid rim, and confirm the direction of dislocation.
- [ ] **Do not attempt reduction if the films show a displaced fracture-dislocation, or if the dislocation is posterior or inferior, without senior or orthopaedic advice.**
- [ ] **Do not attempt reduction if there are signs of arterial injury; call vascular surgery and orthopaedics and follow their plan.**

Before · Consent and analgesia

- [ ] Explain the procedure, options and risks (failure, fracture, nerve or vessel injury, re-dislocation) and obtain consent.
- [ ] Give IV analgesia while preparing.
- [ ] Choose the analgesia or sedation method: procedural sedation per the EM Orbit procedural sedation guide, or intra-articular lidocaine.
- [ ] If using intra-articular lidocaine, calculate the maximum dose first: lidocaine 1% plain 3 mg/kg.
- [ ] **If sedating, fast per local protocol, apply full monitoring, site IV access and have airway equipment and reversal agents ready before starting.**

Before · Preparation

- [ ] Position the patient: sitting upright on the trolley, or supine, or prone depending on the technique chosen.
- [ ] Brief the assistant and agree how to stop; plan who will perform the reduction and who will manage the sedation.
- [ ] Check the side with the patient and the films immediately before starting.

During · Intra-articular lidocaine (if used)

- [ ] Clean the skin over the lateral shoulder with antiseptic and use a no-touch technique.
- [ ] Palpate the lateral edge of the acromion and the empty glenohumeral sulcus about 2 cm below it.
- [ ] **Insert the needle into the joint space, aspirate (haemarthrosis confirms position), then inject slowly after negative aspiration.**
- [ ] Allow time for the block to work before attempting reduction.
- [ ] **If local anaesthetic toxicity is suspected, stop injecting, call for help, manage the airway and circulation, and give 20% lipid emulsion 1.5 mL/kg IV bolus followed by an infusion per the national LAST guideline.**
  Signs: Perioral tingling or numbness, metallic taste, tinnitus, light-headedness, agitation, confusion, seizures, arrhythmia, cardiovascular collapse.

During · General principles

- [ ] **Use slow, steady, gentle movements and allow muscle spasm to settle; do not use sudden jerks.**
- [ ] **Stop immediately if the patient reports severe pain, if there is a crunch, or if resistance suddenly increases.**
- [ ] **Do not use levering manoeuvres (for example the original Kocher technique) or a foot in the axilla; these carry a risk of fracture and neurovascular injury.**
- [ ] Limit the number of attempts for each technique and call for senior or orthopaedic help if two or three attempts fail.

During · External rotation technique

- [ ] With the patient sitting or supine, keep the elbow flexed to 90° beside the trunk.
- [ ] Support the arm and apply gentle, slow external rotation of the forearm outwards, without traction.
- [ ] Continue rotating towards about 90° if tolerated; stop if the patient cannot relax or resistance persists.

During · Scapular manipulation technique

- [ ] Position the patient prone with the arm hanging over the edge of the trolley, or sitting with an assistant providing gentle forward traction on the arm.
- [ ] Stabilise the superior border of the scapula and gently rotate the inferior tip of the scapula medially towards the spine.
- [ ] Wait for the humeral head to relocate; this technique often causes little pain.

During · Cunningham technique

- [ ] Seat the patient with the arm adducted and the elbow flexed to 90°, with the forearm resting on yours.
- [ ] Massage the biceps, trapezius and deltoid to reduce spasm, and ask the patient to relax the shoulders and lift the chest, retracting the scapula.
- [ ] Allow several minutes for the relocation; there is no traction and no forced movement.

During · Traction-countertraction technique

- [ ] Place a folded sheet around the patient's torso at the axilla, held by an assistant standing on the opposite side, for countertraction.
- [ ] Apply a second sheet around the patient's flexed forearm, then apply steady, gradual traction in line with the arm.

- [ ] Ask the assistant to maintain countertraction until the humeral head relocates; if needed, add gentle external rotation of the arm.

During · Confirming reduction

- [ ] Look for a clunk or sudden loss of resistance, return of the round contour of the shoulder, and restoration of passive rotation.
- [ ] Check that pain eases and that the patient can place the hand on the opposite shoulder, gently and passively.
- [ ] Reduction is not confirmed until post-reduction films are reviewed.

After · Immediately after reduction

- [ ] **Reassess and document the neurovascular status: radial pulse, capillary refill, axillary nerve (sensation over the lateral shoulder and deltoid contraction), musculocutaneous, radial, median and ulnar function.**
  Compare with the pre-reduction findings; any new deficit is an emergency.
- [ ] **If a new neurological deficit or pulse loss appears, stop, call senior and orthopaedic or vascular help, and do not discharge.**
- [ ] Place the arm in a sling or shoulder immobiliser.
- [ ] Continue monitoring until the patient has recovered from sedation, per the sedation protocol.

After · Imaging and plan

- [ ] Obtain post-reduction films (anteroposterior and scapular Y or axillary views).
- [ ] Review for a Hill-Sachs lesion, glenoid rim fracture and greater tuberosity fracture, and refer to orthopaedics if present.
- [ ] **If reduction fails after reasonable attempts with adequate analgesia, stop and arrange orthopaedic review; do not continue forceful attempts.**

After · Discharge and follow-up

- [ ] Give analgesia and written advice: keep the sling on, avoid lifting and overhead activity, and return if numbness, weakness, a cold hand or increasing pain develops.
- [ ] Arrange orthopaedic or fracture-clinic follow-up and physiotherapy per local protocol.
- [ ] Document the examination before and after, imaging, drugs and doses, technique, number of attempts and outcome.

A procedure checklist. Perform procedures only within your training, competence and local policy. It does not replace your clinical judgement.
EM Orbit · Emergency medicine, in one orbit · proc-shoulder-reduction · red rows are the steps that must not be missed