Clinical Practice Procedures:
Trauma/Fracture reduction

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<th>Date</th>
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<td>Purpose</td>
<td>To ensure a consistent procedural approach to Fracture reduction.</td>
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<td>Scope</td>
<td>Applies to all QAS clinical staff.</td>
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**Fracture reduction**

**Extremity fractures** are common, and may result in displacement and neurovascular compromise necessitating timely reduction and realignment.[1]

An assessment must be made as to the appropriateness of performing this procedure, which takes into account:

- Risks associated with sedation versus the benefit of performing the procedure
- Transport time to a medical officer more experienced in the procedure
- The likelihood of successful reduction, noting that some fracture-dislocations, such as that of the ankle, may be very difficult to reduce.[2]

### Indications
- Extremity fractures, or fracture-dislocations, with neurovascular compromise

### Contraindications
- Nil in this setting

### Complications
- Pain
- Possible worsening of neurovascular compromise
- Complications associated with sedation
**Procedure – Fracture reduction**

1. Explain the procedure to the patient.
2. Ensure adequate analgesia and/or sedation.
3. Slightly flex the knee 30 degrees.
4. Apply traction and gentle counter-traction in the line of the limb.
5. This should result in disimpaction of most fractures and lead to resolution of shortening and, in most cases, reduce the deformity.

6. Following traction, any remaining angulation can be corrected by placing the heel of one hand under the fracture whilst applying pressure distally with the other hand.
7. Fractures involving prominent bony spikes or soft tissue caught between fragments, may be difficult to reduce. In these instances, initially gently increasing the angulation prior to traction and manipulation may assist.
8. Splint the limb as appropriate.
9. Transport while maintaining appropriate analgesia.

**Additional information**

- The active management and treatment of life threatening conditions take precedence over fracture management.
- Forearm fracture reduction should not be attempted in the pre-hospital environment unless the limb has evidence of neurovascular compromise or is grossly deformed making packaging and transport difficult.
- The limb’s neurovascular status must be assessed (and documented) prior to and following fracture reduction.
- All open fractures must be irrigated with 500–1500 mL of sodium chloride 0.9% prior to reduction.