Royal College of Nursing

Acute Limb Compartment Syndrome Observation Chart

Patients at risk

- Tibial, forearm or high-energy distal radius fractures.
- Orthopaedic injury/ intervention combined with known coagulopathies/patient taking anticoagulants.
- Crush injuries.
- High impact trauma, including open fractures.

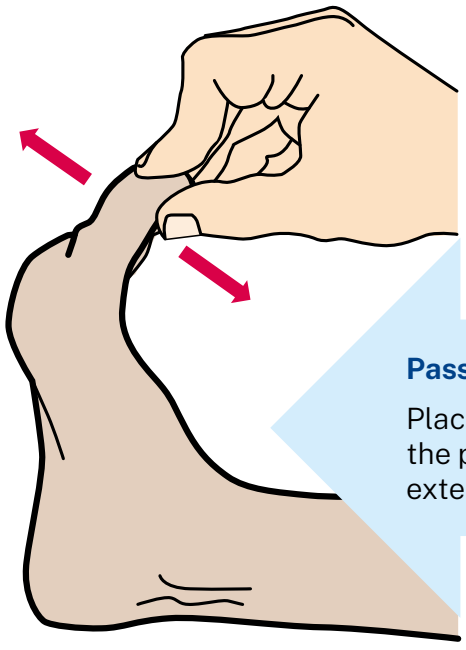
Pain is the primary symptom

Patients who begin reporting pain that is out of proportion to the injury or treatment, particularly during passive movement, should be escalated to the medical team for assessment.

Patients who are unconscious or receiving an anaesthetic nerve block or epidural infusion may not be able to report their pain. Medical advice should be sought if you have suspicions of acute compartment syndrome.

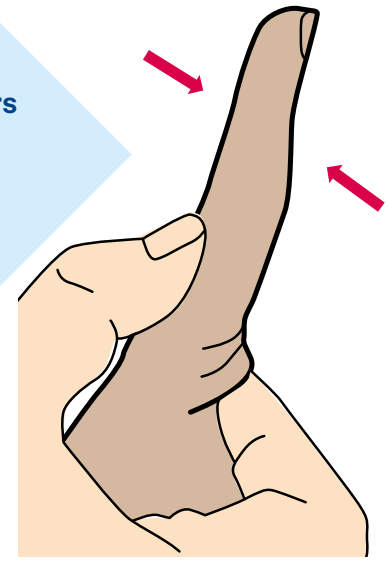
Monitoring should be person centred, it is recommended hourly for the first 24 hours, followed by four hourly, for 24-48 hours – if suspicions arise revert to hourly.

Consider the risks of newly applied traction, a restrictive cast, or a tight circumferential bandage, which does not allow for swelling.



Passive movement of the fingers

Place your fingers underneath the patient's fingers and gently extend the fingers.



Passive movement of the toes

Place your fingers underneath the patient's toes and gently extend the toes.

An increase in pain when carrying out this test may indicate a developing compartment syndrome and should be recorded appropriately on the chart overleaf.

A second chart will be required to provide a minimum of 48 hours monitoring.

Patient details	
Name:	
Hospital no.:	
Date of birth:	

Tick all that apply		
	Cast/traction/ tight bandaging	Nerve block/ epidural
Left upper limb	☐	☐
Right upper limb	☐	☐
Left lower limb	☐	☐
Right lower limb	☐	☐

Hospital logo

				Example																								
			Date																									
			Time																									
The primary symptom is pain on passive extension.	Pain	Pain at rest	Severe (score range 7-10)																									
			Moderate (score range 4-6)	5																								
			None/Mild (score range 0-3)																									
Passively extend the fingers or toes of the affected limb (see images on front of chart).		Pain on passive movement	Severe (score range 7-10)																									
			Moderate (score range 4-6)	6																								
			None/Mild (score range 0-3)																									
Pain not controlled by regular and appropriate analgesia is a key clinical finding.		Pain since last analgesia	Has worsened (score range 7-10)	8																								
			Is the same (score range 4-6)																									
			No pain/ has improved (score range 0-3)																									
			Initial	EX																								
			Time next observation due	1hr																								
			Score	19																								

A total pain score of 21 or above, an individual pain parameter score of 7, or a clinical concern should be escalated immediately to the responsible clinician as per trust guidelines, emphasising the severity and/or worsening nature of the pain.

Changes in pulse, sensation and skin colour are late symptoms of neurovascular compromise. In patients whose skin colour is not white, consider skin temperature, swelling, comparison with the opposite limb, shiny skin, mottling or discolouration.	Neurovascular status	Pulse (with/ without doppler)	Present	•																								
			Reduced in volume or rate since last assessment																									
			Not present																									
		Sensation	Normal	•																								
			Abnormal/has changed from last assessment																									
		Skin colour	Normal, responsive capillary refill	•																								
			Pallor and/or slow/absent capillary refill																									
		Any abnormal neurovascular status observations should be escalated immediately to the responsible clinician as per trust guidelines.																										
			Initial	EX																								