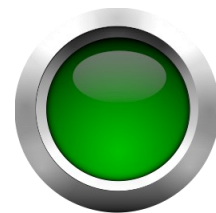


Crush injury SOP

QPI

Further reading

FPHC Consensus statement 2003
NICE NG37 Complex fractures 2017



Related SOPs

Amputation SOP	Open fracture SOP	Haemostasis SOP	Blood transfusion (BoB) SOP
	Blunt chest injury SOP	Traumatic brain injury SOP	

The vast majority of crush injuries attended by GNAAS will be of short duration (<1-2 hours) and caused by entrapment in RTCs or machinery. They will typically involve complex limb injuries such as open fractures, soft tissue de-gloving and blood loss, and should be managed in accordance with the relevant SOPs above. Patients with significant crush injuries should always be triaged to a major trauma centre.

Crush syndrome is the systemic manifestation of muscle cell damage from a crushing force. It is most commonly seen following events such as earthquakes, structural collapses or industrial accidents. Although it is unusual in UK practice, clinicians should be aware of the common pitfalls in management.

Crush injury SOP

Management of crushed/entrapped patient

Remember:

Multidisciplinary approach (HART/Fire & Rescue)

Scene safety and PPE

1. Standard <C>ABC assessment paying particular attention to the **possibility of concealed haemorrhage in the trapped limb.**
2. **Full monitoring should be applied in-situ**, including non-invasive capnography.
3. Vascular access and analgesia in the form of entonox, opioids or ketamine.
4. Apply a warming blanket where appropriate.
5. In rare circumstances, PHEA may be required in-situ either to secure a threatened airway or for humanitarian reasons. Decision making must take into account the environment, the access to the patient and whether there are sufficient ongoing supplies of oxygen and anaesthetic drugs.
6. For prolonged crush (>2hours), a 20ml/kg bolus of 0.9% sodium chloride prior to release is recommended. However in our population, the most likely cause of patient deterioration after release of a crushing force is blood redistribution and hypovolaemia rather than systemic crush syndrome.
7. **Teams should therefore be ready to transfuse blood products at the point of release.**
8. The routine use of a proximal tourniquet prior to crush release is unnecessary **unless indicated for haemorrhage control.**
9. The use of sodium bicarbonate prior to crush release is no longer recommended.
10. Calcium chloride should be given as per the Blood transfusion (BoB) SOP, but is also indicated if there are ECG signs of hyperkalemia after extrication (10mls of 10%).
11. Indications for field amputation are detailed in the Amputation SOP.
12. Thoracic crushing forces causing asphyxial hypoxia should be managed in accordance with the Blunt chest injury SOP and the Traumatic brain injury SOP
13. Patients should be triaged to a major trauma centre.