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Helicopter Medicine*

MAXILLOFACIAL TRAUMA

Maxillofacial injury includes blunt trauma, penetrating injury and burns. In the pre-hospital setting priority should be given to ensuring a patent airway, protecting the cervical spine and minimising blood loss. There may be associated multi-trauma including head injury which can further complicate management. Definitive management is achieved in the hospital setting and for this reason once airway control has been achieved rapid evacuation is essential.

AIRWAY:

Blunt and penetrating trauma may involve the oral cavity. Blood, broken teeth and facial distortion can block the airway causing respiratory difficulties and hypoxia. The situation is compounded in the unconscious patient.

Burns and inhalation injury are covered in a separate SOP but may be associated with maxillofacial trauma in the case of vehicle or domestic fire. Circumoral burns or carbonisation, and swelling of the oral tissues may indicate the potential for loss of the airway and consideration should be given to establishing a definitive airway prior to transfer to hospital.

MANAGEMENT

ENSURE SCENE SAFETY

Manage airway: see below

Administer O₂, preferably via a non-rebreathing mask and reservoir bag.

Assess C-spine

INJURIES REQUIRING SPECIFIC MANAGEMENT:

- If there is bleeding into the oral cavity, ask patient to open mouth – bleeding from tooth socket may be controlled by biting on gauze.
- Teeth: Unless found, assume potential aspiration of teeth. If found – pick up by crown and clean with sterile saline. They may be re-inserted to help control bleeding (slide into socket, displacing any blood and press into position. Get patient to bite on gauze to keep tooth located), or may be transported in milk!
- Unstable mandibular fractures: Certain types of bilateral mandibular fractures may cause the tongue to obstruct the airway: the patient will usually be sitting forwards manually holding their jaw forwards – if they let go, the mandible retracts and the airway is compromised. If conscious they should be transported as they are. If unconscious, airway patency may be restored using usual techniques, or if these fail, a horizontal mattress suture should be placed through the tongue, and traction applied to this.
- In major haemorrhage from the nose in the conscious patient: assess maxilla stability by gripping the upper incisors and pull forwards. If non tender and not mobile, control epistaxis by inserting epistats, then reassess. If maxilla unstable, then manually realign to correct position. This may be enough to reduce bleeding.
- In patients requiring RSI, the midface should be splinted **in the following order:**
 1. Perform RSI as per protocol. Consider using 2 suction catheters in mouth or one up each nostril to improve visibility (use GNAAS and land crew's machines);
 2. Secure cervical collar (even if no c-spine injury suspected). This is to splint the mandible;
 3. Insert bite blocks to splint the maxilla against the mandible (immobilised by the collar);
 4. Finally insert bilateral epistats and inflate.

If epistats are inflated before collar and bite blocks applied, this may cause distraction of a maxillar fracture and increase bleeding.