

## Uncontrolled Maxillofacial Haemorrhage

Position Responsible: Medical Director  
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Related Documents                      Procedural Aide Memoire 3 – Epistats/Bite Blocks (Appendix 1)

Further Information                      Maxillofacial injuries and life-threatening haemorrhage: treatment with transcatheter arterial embolisation. *J Trauma* 2003;55:74-79  
Initial management of massive oral bleeding after midfacial fracture. *J Trauma* 2003;54: 332-336  
Complications with use of the Epistat in the arrest of midfacial haemorrhage *Injury*. 2003 Dec;34(12):901-7  
Emergency Care in facial trauma – a maxillofacial and ophthalmic perspective *Injury* 36 (2005), 875-896

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### 1.0 Background

- 1.1 Although severe haemorrhage secondary to facial fractures is rare, it can be life threatening and difficult to manage. Torrential bleeding associated with facial fractures frequently comes from the nasal cavity. Although the nose itself may be the cause of the bleeding, the sinuses, skull base, and nasopharynx may also be actively bleeding. This blood then clears through the nasal cavity and nasopharynx into the oral cavity. Control of this massive bleeding during the early stages of resuscitation may be essential to provide adequate airway protection and reduce or prevent shock. Where necessary it should be controlled by a combination of manual reduction, nasal epistats and bite blocks.
- 1.2 This SOP describes the methods used to attempt to control life threatening nasal or oral bleeding from maxillofacial injury. It has been agreed with maxillofacial surgeons in the region.
- 1.3 Torrential maxillofacial haemorrhage is usually associated with an obstructed airway (real or impending) and most patients will therefore have their airway protected with a cuffed endotracheal tube (oro-tracheal or surgical cricothyroidotomy).
- 1.4 Maxillo-facial injury will usually be a predictor for a difficult intubation. Intubation will be difficult, in part because of bleeding within the oropharynx. Two suction units may be required if haemorrhage is severe. Fortunately, broken jaws usually allow for a good laryngoscopic view (once paralysed) – though be aware that this isn't always the case and a surgical airway kit should always be prepared prior to induction.

### 2.0 Policy

- 2.1 Patients with severe uncontrolled maxillofacial haemorrhage from the oral or nasal cavities are likely to require tracheal intubation. The bleeding should then be controlled by

reduction of the facial skeleton and tamponade with bilateral epistats, bites blocks and fitting of a cervical semi-rigid collar.

### 3.0 Procedure (See Procedural Aide Memoire)

- i Anaesthetise patient – RSI with expected difficult airway.
- ii Insert the epistats along the floor of nose similar to a nasopharyngeal airway. **Do not inflate at this stage.**

A nasal epistat consists of two balloons, one at the tip which secures the epistat in the posterior nasal space and a second midway along the shaft that compresses the walls of the nasal space. For the balloons to provide tamponade in the nasal space it is important that the hard palate is braced against the lower jaw with bite blocks. *This must be accompanied by pushing the mandible upwards. If the maxilla is not fixed in this way, inflation of the epistats will result in the mobile maxilla being pushed off the base of the skull and bleeding may be increased.*

- iii Insert the bite blocks either side of the endotracheal tube and position between the molars (point of wedge toward the back of the mouth).
- iv Apply a well-fitting semi-rigid one or two piece cervical spine collar. It is important to hand-over whether a cervical spine injury is considered, or if this is for holding the mandible in place only (although it would be almost impossible to exclude C-spine injury under these circumstances)
- v Fill a 50ml ml syringe with normal saline.
- vi Inflate the balloon in the posterior nasal space (white valve) with approximately 10 ml of fluid, enough to prevent the epistat being pulled out with light traction.
- vii Now inflate the middle balloon (green valve) with 20-30ml of fluid until haemorrhage is controlled.
- viii Repeat the process in the opposite nostril.
- ix Take to hospital with maxillofacial surgical capability and interventional radiography capabilities. (Norfolk & Norwich, Addenbrooke's Hospital, Ipswich or Peterborough)

**PAM 3 – EPISTATS / DENTAL BLOCKS**

**INDICATIONS**

Massive maxillofacial haemorrhage

Intubation must be performed prior to their use

**TECHNIQUE**

- Insert nasal epistats into each nostril – **DO NOT INFLATE YET**
- Insert dental bridges either side of the ET tube, between upper and lower molars and with point of wedge towards the back of mouth
- Apply well fitting cervical collar (to stabilize mandible)



- Inflate posterior balloon (**WHITE VALVE**) with 10mls saline
- Inflate middle balloon (**GREEN VALVE**) with 20-30mls saline
- Repeat in opposite nostril

*Patient should be take to hospital with maxillofacial capabilities  
(N&N / PDH / Addenbrooke's)*