



### CSOP 030 – Maxillofacial Trauma

Version No: 2.0

Effective date: 26/07/2022

#### APPROVALS

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Next Review Date:	Aug 2024		

#### HISTORY

Effective Date	Version No.	Summary of Amendment
17/06/2019	1.0	Creation of Document
07/07/2021	1.1	Minor amendment to language and structure
04/07/2022	2.0	Removal of cervical collar and replacement with Olaes bandage

#### REFERENCES

Document Reference Number	Document Title
1.	Hutchison I, Lawlor M, Skinner D. ABC of major trauma. Major maxillofacial injuries. BMJ 1990;301(6752):595–9.
2.	Cannell H, Silvester KC, O’Regan MB. Early management of multiply injured patients with maxillofacial injuries transferred to hospital by helicopter. Br J Oral Maxillofac Surg 1993;31(4):207–12
3.	Cannell H, Paterson A, Loukota R. Maxillofacial injuries in multiply injured patients. Br J Oral Maxillofac Surg 1996;34(4):303–8



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4.	Harris T, Rice S, Watts B, Davies G. The emergency control of traumatic maxillofacial haemorrhage. Eur J Emerg Med. 2010;17(4):230–3.
5.	Murphy AP, Doran HJ, O’Sullivan I, Sleeman D, Cusack SPA. The McKesson prop—an essential tool for the emergency physician? Emerg Med J. 2010;27(2):156–8.

### DEFINITIONS/ACRONYMS:

Abbreviations/Acronym	Definitions
MF	Maxillofacial
MHP	Massive Haemorrhage Protocol

### ANNEX/APPENDIX

Document Reference Number	Document Title
NIL	

#### 1. Purpose

Maxillofacial (MF) trauma can cause significant blood loss and airway compromise due to the complex anatomy of the facial skeleton. In particular, the paths of many facial vessels are encased in bony canals making access difficult. Superficial vessels can be compressed or tied off and fractures reduced and splinted to minimise blood loss.

Patients with severe maxillofacial injuries may require intubation due to the severity of airway compromise or associated injuries. A technique of midface fracture reduction, splinting and nasal cavity tamponade aids haemostasis in intubated patients (1–5). This technique provides a scaffold of stabilisation through an Olaes bandage splinted mandible, upper and lower teeth bite-blocks, and inflatable nasal balloon catheters.



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An Epistat is an inflatable device with two balloons (Figure 1). The balloon at the tip secures the device in the posterior nasal space and the second balloon compresses the walls of the nasal space. For the balloons to provide tamponade in this area it is important that the hard palate is braced against the lower jaw with dental bite-blocks (Figure 2). Failure to do this will result in a mobile maxilla being distracted off the skull base and increasing haemorrhage. Finally, the mandible must be braced against the cranial vault with an Olaes bandage.

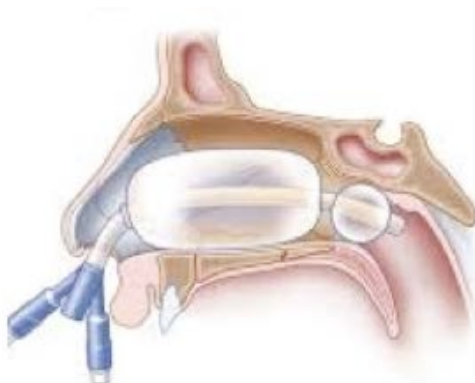


Figure 1: Nasal Epistat

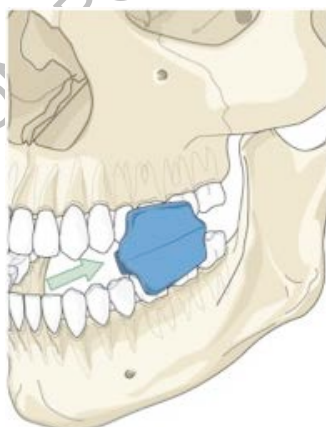


Figure 2: Dental Bite Block

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The order of application of the maxillofacial haemorrhage tamponade kit components are as follows:

1. Intubate the patient
2. Insert epistats carefully, avoiding direction towards skull base (**don't** inflate)
3. Mobilise the maxilla into neutral anatomical alignment (pinch grip the patients' hard palate/incisors and pull forward)
4. Insert bite blocks into the molar space (ensure they curve outwards away from ETT)
5. Remove Olaes packing material and plastic bag (to flatten the bandages profile)
6. Apply Olaes bandage to mandible, securing circumferentially around cranial vault
7. Using the non-vented dispensing pin fill 2x 20ml Luer lock syringes with saline
8. Inflate 10ml posterior epistat balloons (white lumen) with saline
9. Inflate up to 30ml anterior epistat balloons (blue lumen) with saline **concurrently**
  - Both epistats must be inflated together (2-person technique or 5ml aliquots)
  - This avoids distraction of hard palate from base of skull which can increase bleeding



1. Intubate the patient



2. Insert epistats (**don't** inflate)

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4. Insert bite blocks



5. Remove Olaes packing material

6. Use Olaes to splint mandible

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7. Use dispensing pin



8. Inflate white lumen with 5-10ml



9. Inflate clear lumen with 20-30ml  
**(concurrently both sides)**

NOT DOCUMENTED



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Following the removal of cervical collars from the primary and secondary response bags, and concerns regarding raised ICP in patients with TBI and a cervical collar, the use of an Orlaids bandage is a suitable alternative, that may reduce this risk.

Patients with severe maxillofacial injuries should be transferred to a Major Trauma Centre, with pre-hospital activation of MHP where appropriate. Use of the maxillofacial haemorrhage tamponade kit should be reviewed via surgical skills debrief form as per CSOP 28.

**End of Document**