

Short Communication

Maxillomandibular Fixation Using Interdental Tight Contact WiringSuyash Dubey¹, Ankit Pandey², Darpan Bhargava³, Shaji Thomas⁴¹Department of Oral & Maxillofacial Surgery, Peoples College of Dental Sciences and Research Center, People's University, Bhanpur, Bhopal (M.P), India²PG Student, Department of Oral & Maxillofacial Surgery, Peoples College of Dental Sciences and Research Center, People's University, Bhanpur, Bhopal (M.P), India³Senior Lecturer, Department of Oral & Maxillofacial Surgery, Peoples College of Dental Sciences and Research Center, People's University, Bhanpur, Bhopal (M.P), India⁴Dean, Professor & Head of the Department, Department of Oral & Maxillofacial Surgery, Peoples College of Dental Sciences and Research Center, People's University, Bhanpur, Bhopal (M.P), India***Corresponding author**

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Abstract: Intra operative maxillomandibular fixation is often required before functional fixation is done using miniplate osteosynthesis. Various methods are in use for maxillomandibular fixation, requiring variable operation table time and specialized hardware like intermaxillary fixation screws or arch bars. We present a quick and dependable technique to achieve intra operative maxillomandibular fixation provided patient has intact interdental tight contacts.

Keywords: Maxillomandibular fixation, Intermaxillary fixation, IMF, MMF, Interdental wiring

TECHNICAL NOTE

In the management of maxillofacial trauma, obtaining satisfactory occlusion remains the prime concern of the operating surgeon. Various methods ranging from direct interdental wiring, eyelet wiring, erich arch bars to maxillomandibular fixation (MMF) screws have been widely used to achieve intraoperative occlusion. The operation table time spent on these maxillomandibular fixation techniques depends on many factors including the expertise of the surgeon, hard ware used, type of fracture etc. In general, cumbersome technique like fixation of erich arch bar takes more operative time than maxillomandibular fixation screws or direct interdental MMF wiring [1]. There has been continued research on MMF for reducing the intra-operative time and reduction in cost due to such fixations [2, 3].

Considering the fixation using commonly used methods like erich arch bar, eyelet wiring or MMF screws, operator depends on the fixation of the maxillary and mandibular arches with point of fixation lying buccal or labial to the actual intercuspation points. This technical note highlights a simple technique of maxillomandibular fixation that entails the fixation in the line of actual intercuspations rather depending on fixations lying buccal or labial to it.

The prerequisite for the below described fixation technique is that, patient with the fractured jaw should have healthy dentition with intact tight contacts between the teeth. The interdental tight contacts or interproximal dental contacts at the height of contour of the tooth should be such that it does not allow 26 gauge wire to slip between the contacts. The described MMF technique would be useful for short term intra operative MMF and would not benefit patients requiring long term MMF. In patients requiring long terms fixation (MMF), the wire used for fixation in this technique would behave like an interproximal separator and will slip from the tight contact once enough separation of the teeth has occurred.

TECHNIQUE

A 12 cm pre-stretched 26 gauge stainless steel wire is passed through the embrasure space between the molar/ pre-molar teeth from buccal aspect of mandible (Figure 1). The wire lying below the mandibular molar/ pre-molar interproximal tight contact is withdrawn to its half length on the lingual side. The tip of the lingual wire is now passed through the embrasure space between the molar/ pre-molar teeth in the maxilla from palatal to buccal aspect (Figure 2). Similar manoeuvre is done on the opposite side arches (Figure 3). As per the need, number of wires and tight contacts utilized may be increased. Once all the wires are passed from

buccal to lingual in mandible and the same wire from palatal to buccal in maxilla, the deranged occlusion is manipulated to achieve satisfactory intercuspation. Manually holding the thus achieved intercuspation, the occlusion is secured by twisting the two ends of the wire on the buccal aspect the maxilla and mandible

(Figure 4). The wire passed engages the maxillary and mandibular interproximal dental contacts to aid the operator for fracture fixation. Once the stable internal fixation is achieved, the inter arch wires are released in the intraoperative setting.



Fig-1: 26 gauge steel wire passed through the embrasure space between the pre-molar teeth from buccal to lingual in mandible



Fig-2: The tip of the lingual wire passed through the embrasure space between the pre-molars in maxilla from palatal to buccal



Fig-3: Wires on both right and left side



Fig-4: Occlusion is secured by twisting the two ends of the wire

LIMITATIONS

This technique will not be useful in absence of tight contacts between the teeth. It will not be useful for long term maxillomandibular fixation and providing maxillomandibular elastic traction as can be done using arch bar.

ADVANTAGES

The major advantage lye in saving the operation table time for maxillomandibular fixation. This technique does not involve any additional hardware other than a 26 gauge stainless steel wire.

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