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# Single lower border plate fixation in anterior mandibular fractures

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**Purpose of Study:** Repair of symphyseal and parasymphyseal mandibular fractures is traditionally performed with a lower border plate and either an upper border microplate or arch bars as a tension band. Complications of microplates include wound dehiscence, plate exposure, and tooth root injury. Issues with arch bars include increased operative time, a second procedure for removal, risk of TMJ ankylosis, and risk of injury to the operative team. We propose that one lower border plate is adequate for simple fractures of the anterior mandible and will serve to minimize complications.

**Methods:** A retrospective review was conducted of all records of patients that underwent open reduction and internal fixation of symphyseal and/or parasymphyseal fractures of the mandible in a level I trauma center from 2012 to 2017. Criteria for inclusion included reconstruction with a single 2.0 mm lower border plate; criteria for exclusion included fixation by any other method. Thirty patients fit the inclusion criteria. Demographic information, comorbidities, and details pertaining to the injury and operation were

collected. The length of follow up and any complications were also noted.

**Results:** A total of 30 patients underwent parasymphyseal or symphyseal mandibular fracture repair with a single lower border plate. Ages ranged from 6 to 54 years. Twenty-two out of 30 (73%) patients were male and 8 (27%) were female. Preoperative trauma-related morbidities included 2 cases of tooth loss (7%), 27 cases of gross malocclusion (90%), 6 cases of paresthesia (20%), and 1 case of facial palsy (3%). Twenty-six patients (87%) had concurrent fractures that were also repaired. Twenty-nine patients obtained a postoperative maxillofacial CT scan (97%). The average length of follow up was 103 days (range 1-431). No patients had post-op malocclusion, infections, hematomas, or iatrogenic tooth injury.

**Conclusions:** Results of our study suggest that single lower border plating is an effective method of repair for simple anterior mandibular fractures. Upper border plates as advocated classically are not necessary. Furthermore, we feel the absence of an upper border plate is key to the lack of exposures and wound dehiscence in our patients. It may be useful to conduct a prospective comparative analysis of these techniques in the future.

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Accepted for Publication: November 2018  
The authors have no funding, financial relationships, or conflicts of interest to disclose.

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