mandibular fractures. The purpose of the study is to compare the time for placement and removal, effect on the gingiva, and operator safety.

Methods: The authors designed a parallel-group, randomized controlled trial to compare the 2 types of arch bars. Patients with mandibular fractures presenting to the authors' institution were enrolled in the study and randomized into 2 groups: (1) the Erich arch bar group secured with circumdental stainless steel wires and (2) the Hybrid arch bar group secured with bone-borne self-drilling locking screws. The primary outcome variable was arch bar placement time. Secondary outcomes were glove tears or penetrations during application, gingival appearance score at removal, loose hardware at removal, removal time, and glove tears or penetrations at removal. The groups were compared by using the Student *t* test.

Results: A total of 90 patients were enrolled in the study. There were 43 patients randomized to the Erich arch bar group and 47 patients randomized to the Hybrid arch bar group. The mean time for application of Erich arch bars was 31.3 Â ± 9.3 minutes and 6.9 Â ± 3.1 for the Hybrid arch bars ($P <$ 0.0001). There were significantly more glove tears or penetrations during application in the Erich Arch Bar group (0.56 Â ± 0.91 per application) compared with the Hybrid group (0.11 Â ± 0.32 per application) ($P = .0025$). At removal, there was no difference in overall gingival appearance or amount of loose hardware. The time for removal was significantly less for the Hybrid arch bar group (10.5 Â ± 5.1 minutes) than for the Erich arch bar group (17.9 Â ± 10.7 minutes) ($P = .0007$).

Conclusions: Hybrid arch bars with bone-borne locking screws offer a number of advantages, including faster placement, shorter removal time, and a greater margin of safety for the operating surgeons, as demonstrated by significantly fewer glove tears and penetrations.

SUBJECTIVE CHANGES IN MOOD AND CHRONIC PAIN STATUS-POST INTRAVENOUS KETAMINE FOR ORAL AND FACIAL SURGERY

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Purpose: The aim of this study was to determine whether subjects who received intravenous ketamine for outpatient procedures, under intravenous sedation (IVS), show changes in mood and chronic pain.

Methods: Inclusion criteria were oral-maxillofacial surgery subjects age >18 years; presence of chronic pain and/or depression; eligibility for IVS. Exclusion criteria included age less than 18 years. Eligible subjects were educated about the purpose and potential risks and benefits of the study; consent was obtained if they chose to participate. Chronic pain was surveyed pre- and post-operatively. Beck's Depression Inventory (Modified) surveyed patient's mood postoperatively. Data was reviewed to determine correlation between IVS with ketamine and effects on chronic pain and mood.

Results: The total study population was 23 patients (average age 36 years; 57% males and 43% females). Average chronic pain score was lower postoperatively for subjects who received ketamine. Subjects who received ketamine used significantly less opioids postoperatively compared with those who did not. Subjects who received ketamine exhibited significant improvement in mood postoperatively compared with those who did not.

Conclusions: Ketamine appears to have value to patients beyond just its anesthetic properties. Chronic pain and mood appear to be positively altered by the use of ketamine in outpatient surgical procedures. Ketamine use should be considered as a first-line anesthetic agent, unless contraindicated, in patients with chronic pain and depression. However, the growing opioid and mental health epidemic may allow a secondary impact of ketamine. Future studies may derive appropriate ketamine dose regimens or titrations when aiding patients suffering with depression or chronic pain patients.

IMMEDIATE RECONSTRUCTION OF SEGMENTAL MANDIBULAR DEFECTS WITH NON-VASCULARIZED BONE GRAFTS

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Purpose: There is long-standing evidence that a segmental mandibular defect greater than 6cm needs to be reconstructed with a vascularized graft, which significantly increases patient morbidity. We challenge this notion. In this study, we determined maximum defect size that can be predictably reconstructed with nonvascularized bone grafts immediately after resection.

Methods: A retrospective chart review of 34 patients that had mandibular resections for benign pathologies that were immediately reconstructed with particulate marrow grafts were reviewed. The same senior surgeon at a university medical center oversaw all cases. Cohort demographic and descriptive data were obtained, resection size was determined, and statistics were calculated.

Results: The patient cohort had a mean age of 49 years (standard deviation [SD] = 12.2), and consisted of 16 males and 18 females. Mean follow-up time was 18 months. Diagnoses included 15 (44%) cases of osteomyelitis, 13 (38%) ameloblastomas, 5 (15%) ossifying fibromas, and 1 (3%) histiocytoma. Average resection size of all cases was 8.7 cm (SD = 4.1). Average resection size of successful grafts was 8.1 cm (SD = 3.2). Graft failures measured 12.1 cm (SD = 2.8). When comparing graft success versus failure there is statistical significance ($P < .05$) using 2-sample *t* test. Thirty of 34 (88%) patients went on to achieve mandibular bony union after 1 surgery.

Conclusions: Taken together, these data demonstrate that segmental mandibular resections for benign pathology can be predictably reconstructed using non-vascular grafts up to 8.1Â ± 3.1cm. The morbidity and time of surgery of particulate marrow grafts is significantly less compared with free-flap reconstruction. Furthermore, the course of treatment in these patients is significantly decreased. This facilitates expedited convalescent care and an earlier return to normal form and function.

MANAGEMENT OF MANDIBLE FRACTURES BY THE ORAL MAXILLOFACIAL SURGERY DEPARTMENT AT UNIVERSITY OF MARYLAND: A QUALITY ASSESSMENT INITIATIVE

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Purpose: Repair of isolated mandibular trauma has been well documented in the literature. Outcomes based on methods