Alcohol and Drugs Common Risk Factors for Facial Trauma

Substance Use in Vulnerable Patients With Orofacial injury: Prevalence, Correlates, and Unmet Service Needs.

Murphy DA, Shetty V et al:

J Trauma; 66 (February): 477-484

Only a small proportion of facial fracture patients who have drug or alcohol abuse problems have seen a professional for treatment.

Objective: To determine the alcohol and drug use habits of vulnerable adults treated for orofacial injuries.

Design: Prospective clinical evaluation.

Participants: 154 patients being treated for intentional facial injuries.

Methods: The patients all sought treatment at the authors' institution over a 2-year period. All patients were 18 years of age and, through clinical history, self-reported use of alcohol or drugs within the past 30 days was determined. Each patient had at least one fracture involving the jaws, orbit, nose, or zygoma. All fractures were the result of altercations. Patients who agreed to participate in the study were interviewed and ultimately assigned randomly into a motivational interviewing intervention program with 2 follow-up interviews. These interviews used structured questions to collect baseline information on sociodemographic characteristics. The subjects took an Alcohol Use Disorders Identification Test to identify those whose alcohol use had become harmful to their health. They also took a Texas Christian University Drug Screen, which evaluated the severity of their drug abuse. Finally, their use of medical services was evaluated. Other data gathered included fracture identification and facial injury severity scores.

Results: 88% of patients were males, with an average age of 32 years. In this group, 47% were Latinos, 28% were African American, and >25% were not native born. Sixty-two percent of patients did not finish or get educated beyond high school. Sixty-six percent were unemployed, and 28% had legal problems such as probation, parole, or an outstanding warrant. Drug and alcohol problems were common. Forty percent of patients reported at least one family member with an alcohol problem, and 27% had family members with drug problems. Patients admitted to alcohol use for a mean of 11 of the last 30 days; 45% of patients admitted to illegal drug use during the past month including the use of marijuana, amphetamines, opiates, and/or cocaine. In the preceding 6 months, 22% had emergency department visits, and 16% had outpatient department visits. Only 10% had sought professional help for drug or alcohol abuse.

Conclusions: Substance use/abuse increases vulnerability to injury. Substance abuse services are not integrated into trauma care as much as they should be.

Reviewer's Comments: There are no real surprises in the results of this study. We are all familiar with the drunk or "out-of-it" trauma patients, many of whom are repeat players. Many studies identify the need for professional substance abuse counseling and treatment, but far too few patients really get this kind of care.

Additional Keywords: Substance Use

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8-mm Implants Highly Successful in Posterior Mandible

Outcomes of Placing Short Dental Implants in the Posterior Mandible: A Retrospective Study of 124 Cases.

Grant B-TN, Pancko F, Kraut RA:

J Oral Maxillofac Surg; 67 (April): 713-717

In the atrophic posterior mandible, in limited bone space, 8-mm implants can be highly successful.

Objective: To determine the success rate of short dental implants placed in the posterior mandible and restored with fixed prostheses.

Design: A retrospective study of the records of patients having 8-mm implants in the posterior mandible.

Methods: The records of 124 patients with 335 implants 8 mm in length were reviewed. The implants were placed with a 2-stage procedure and were ultimately restored with fixed prostheses either splinted or constructed individually. The patients were followed up for a minimum of 1 year, and some implants were in function for 2 years. Success was set at integration after the first stage and loss of <1 mm of bone at the first year and <1/10 of 1 mm of bone in subsequent years.

Results: 99% of the implants were restored and are still in function.

Conclusions: When placed in the posterior mandible and restored with fixed prostheses, an 8-mm implant can be highly successful in restoring the dentition.

Reviewer's Comments: This is an excellent article and shows that it is not always necessary to use bone graft or alloplastic material to build up the posterior mandibular ridge prior to the insertion of implants. In this study, the 8-mm implant was just as successful as longer implants.

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What Complications Are Associated With Alveolar Distraction?

Complication Rates and Associated Factors in Alveolar Distraction Osteogenesis: A Comprehensive Review.

Saulacic N, Zix J, Iizuka T:
Int J Oral Maxillofac Surg; 38 (March): 210-217

The type of distractor utilized and rates of distraction >0.5 mm per day are associated with a greater incidence of complications and insufficient bone formation.

Objective: To estimate the types of complications associated with alveolar distraction osteogenesis (DO) and their frequency of occurrence.

Design: Review of the literature involving a PubMed search.

Methods: The criteria used during the search were indications for surgery, type of distractor used, distraction protocol variables, surgical site, and total number of alveolar distractions per patient. Complications were recorded and classified according to their time of occurrence during the distraction process.

Results: 26 articles met the inclusion criteria. The majority were case series, and only 2 were prospective investigations. There were 256 patients in the studies who underwent 270 DO procedures. The overall complication rate was 30%, resulting in 109 complications in the pooled study group. The most frequent complication was insufficient bone formation following the consolidation period (22 cases, 8%). The second most common complication was relapse of the distraction segment (18 cases, 7%). The third most common complication dealt with the distraction device itself (16 cases, 6%). The remainder of the complications consisted of the following: hematoma formation, bleeding, temporary paresthesia, and infection. A significant correlation was found between the rate of distraction and the rate of complications.

Conclusions: DO of the alveolus is a viable option, but complications are frequent. The type of distractor used and a rate of distraction >0.5 mm per day were found to be associated with a greater complication rate and insufficient bone formation.

Reviewer's Comments: This very well-done literature review reveals the complications of DO. It is interesting to note that the majority of articles had a really low level of evidence, secondary to their retrospective design. The major complication I have witnessed is insufficient bone at the crest of the distracted segment for implant placement.

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Though Rare, Consider Metastatic Spread for Lesions of Maxillofacial Bone

Metastatic Tumors to the Oral and Maxillofacial Region: A Retrospective Study of 19 Cases in West China and Review of the Chinese and English Literature.

Shen M-L, Kang J, Wen Y-L, et al:

J Oral Maxillofac Surg; 67 (April): 718-737

In patients with a history of malignant disease, any radiolucent lesion of the jaws should be considered as a metastatic lesion.

Objective: To present a retrospective review of 19 cases of maxillofacial metastatic tumors, and to perform a systematic analysis of the English and Chinese language literature on this subject.

Design: A retrospective study of 19 cases and a systematic review of the English and Chinese literature concerning metastatic tumors of the maxillofacial region.

Methods: 19 cases of metastatic tumors of the maxillofacial region were presented. The type of lesion, demographic information on the patients, whether this was the presenting tumor, treatment, and prognosis were presented. A review of the English and Chinese literature on this subject was performed, which included 765 additional cases. When available, the same data on these patients were analyzed.

Results: The cases in the Chinese literature and in the United States literature showed different areas of primary tumor formation resulting in metastatic lesions to the jaws. Breast, kidney, prostate, and melanoma were more frequent primary cancers in the United States. Lung, thyroid, liver, esophagus, and stomach were more common primary cancers in China. Overall, lung, breast, kidney, liver, and prostate were the 5 top most common primary sites in both countries.

Conclusions: Since the metastatic lesion in the maxillofacial region may be the presenting tumor in a particular case, a search for the primary tumor should focus on lesions that have been shown in this study to be the most common for metastatic spread to the jaws.

Reviewer's Comments: This is an interesting study showing that there should be a high level of suspicion in examining patients with lesions either radiographically or clinically presenting in the maxillofacial region who have a history of malignant disease elsewhere in the body.

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Effects of Cocaine Use on Trauma Patient Treatment

Cocaine Use in Trauma: Effect on Injuries and Outcomes.

Hadjizacharia P, Green DJ, et al:

J Trauma; 66 (February): 491-494

This retrospective record review showed no significant difference in mortality or length of ICU stay between cocaine-positive and cocaine-negative patients with similar injuries.

Objective: To evaluate injury patterns, complications, and mortality in trauma patients who test positive for cocaine.

Design: Retrospective review of all trauma patients with a toxicology screen over a 3-year period.

Participants: 1096 trauma patients who tested positive for cocaine were matched to a pool of 4846 toxicology test-negative patients admitted during the same period.

Methods: All testing was performed with urine and reported as positive or negative. Demographic data were collected and included mechanism of injury, injuries sustained, and operative procedures. Admission vital signs, Abbreviated Injury Score (AIS), toxicology and alcohol screening status, hospital and ICU length of stay, and mortality were also reviewed for each subject. Cocaine test-positive patients were matched with an alcohol and toxicology-negative control with respect to age, gender, injury mechanism, Injury Severity Score, and head, chest, abdominal and extremity AIS. Complications, outcomes, and ICU and hospital lengths of stay were all recorded for these subjects.

Results: Only subjects who were toxicology positive for cocaine were included in the study. Polysubstance abuse patients were not included; 985 cocaine-positive patients were successfully matched with patients from the control pool. Injury patterns were similar in both groups except that test-negative patients had a higher incidence of kidney injuries. Interestingly, there was no significant difference in complication rates and the number of procedures required in the 2 groups except that the test-negative patients developed more pneumonias. There was also no difference in mortality rates between the 2 groups. Finally, no difference was found in ICU admission rates or lengths of stay in the ICU and hospital.

Conclusions: Despite the findings that cocaine is associated with increased violence and a higher risk for all types of injuries, this study demonstrated no significant difference in injury patterns, complications, and mortality between control and cocaine-positive trauma patients.

Reviewer's Comments: This is an interesting, fact-filled paper with findings that are a little surprising. In the text and in their tables, the authors clearly state that the incidence of pneumonia was higher in cocaine-negative patients. However, in their summary paragraph, they say just the opposite.

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Can Botulinum Toxin A Injections Reduce Salivary Flow?

Effect of Botulinum Toxin Type A Injection Into Human Masseter Muscle on Stimulated Parotid Saliva Flow Rate.

Kwon JS, Kim ST, et al:

Int J Oral Maxillofac Surg; 38 (April): 316-320

Injection of botulinum toxin A into the masseter muscles does not appear to affect parotid salivary flow.

Objective: To determine the effects of botulinum toxin A (BTX-A) injections into the masseteric muscles on parotid salivary flow.

Design: Retrospective clinical investigation.

Participants: 34 patients.

Methods: All patients presented with complaints of bulky masseter muscles and underwent complete radiographic and clinical examinations to rule out orofacial pain and the presence of bony protuberances. All subjects had a total of 25 U of BTX-A into the masseteric muscles bilaterally. The sites of injections were 2 points, 1 cm apart, located at the center of the lower third of the muscles. The effects of the injections were evaluated via EMG. Saliva flow was stimulated with 2% citric acid applied to the dorsolateral surface of the tongue and collected over a 10-minute period with a modified Curby cup to determine parotid salivary flow rates. Samples were taken 4, 8, 12, and 18 weeks following the injections.

Results: Local complications following the injection of BTX-A consisted of headache, swelling and pain at the site of injection, and muscle weakness. EMG analysis showed a significant decrease in muscle activity at 4 and 8 weeks following the injections. There was no significant decrease in salivary flow rates at any of the times tested.

Conclusions: Injection of botulinum toxin A into the masseter muscles does not appear to affect parotid salivary flow. Total unstimulated salivary flow was not measured, and flow rate needs to be evaluated to determine the validity of subjective complaints of xerostomia following BTX-A injections into facial musculature.

Reviewer's Comments: I have never had a patient complain of xerostomia following BTX-A injections into the masseter muscles, but that may just be a function of not asking or not seeing enough cases. This is a very well-done study, and it will be interesting to see the authors' follow-up regarding the potential effects of total unstimulated salivary flow to determine the systemic effects of BTX-A on total salivary flow.

Additional Keywords: Salivary Flow

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Proplast-Teflon Implants Can Lead to Inflammation

A Quantitative Evaluation of Inflammatory Cells in Human Temporomandibular Joint Tissues From Patients With and Without Implants.

Alonso A, Kaimal S, et al:

J Oral Maxillofac Surg; 67 (April): 788-796

The use of the Proplast-Teflon Vitek implant can lead to marked inflammatory foreign body responses with foreign body giant cells and lymphocytes.

Objective: To perform a quantitative comparison of certain inflammatory cell types in TMJ tissues after the removal of a Proplast-Teflon implant, to compare the number of cell types with tissues taken from patients who had surgery but no implant, and to compare these 2 tissue samples with normal TMJ tissue.

Design: A retrospective analysis was performed of tissue taken from TMJs following the removal of a Proplast-Teflon implant. The number of inflammatory cells in this tissue was compared with that of a sample of patients' tissue removed that had pathology but no implant and tissue samples from normal joints.

Methods: The following samples were prepared for microscopic analysis: 10 tissue samples from TMJs that had Proplast-Teflon implants, 10 tissue samples from patients who had joint pathology but no implant placement, and 10 tissue samples from cadaveric specimens with no history of TMJ disease. Using a microscopic grid, the number of foreign body giant cells and lymphocytes was counted in each of the samples. The findings were then statistically compared for a difference in the raw numbers.

Results: There were no foreign body giant cells in either the pathology/no-implant joint group or the normal joint group. There was a statistically significant increase in the number of foreign body giant cells and lymphocytes in the tissue from the implanted joints.

Conclusions: The placement of a Proplast-Teflon implant into the TMJ can lead to a significant increase in the number of foreign body giant cells as well as lymphocytes.

Reviewer's Comments: Although this phenomenon has been known and publicized for many years, this paper provides a quantitative number to the increase in inflammatory cells after implantation of a Proplast-Teflon implant.

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Interesting Bisphosphonate Osteonecrosis Study

Bisphosphonate-Related Osteonecrosis of the Jaw and Its Associated Risk Factors: A Belgian Case Series.

Saussez S, Javadian R et al:

Laryngoscope; 119 (February): 323-329

Small BONJ lesions and other larger lesions that can be treated medically, not surgically, appear to have the best long-term outcomes.

Objective: To identify risk factors and describe the clinical presentation of bisphosphonate-related osteonecrosis of the jaw (BONJ).

Design: Retrospective record audit/review.

Participants: 34 patients treated in 4 Belgian institutions.

Methods: All patients had been referred to the participating institutions for management of clinically obvious oral osteonecrosis. Complete demographic data were obtained. Medical histories included the initial disease for which the patient was receiving bisphosphonate treatment, type and duration of bisphosphonate therapy, symptomatology and location of the osteonecrosis, prior invasive procedures, treatment provided, treatment outcome, and radiographic, histologic, and microbiological data.

Results: 23 of the 34 patients were women. Bisphosphonates were used to treat 88.5% of patients for disseminated malignant disease, while 11.5% of patients were treated for osteoporosis. The average patient age at the time of diagnosis was 62 years. Fifty-three percent of patients had breast cancer, 20% had multiple myeloma, and 13% had prostate cancer; other patients had lung adenocarcinoma, hypernephroma, lymphoma, or colon adenocarcinoma. Zoledronic acid was used to treat 83% of patients (alone in 60% and in combination with pamidronate, ibandronate, or alendronate in 23%). Alendronate, pamidronate, and zoledronic acid were the only agents used for some patients. The average treatment time before the first symptoms of BONJ appeared was 35 months in cancer patients and 50 months in osteoporosis patients. Half of the patients had previous dental surgeries, 71% had associated periodontal disease, and 26% developed BONJ spontaneously. Fifty-three percent of patients had mandibular BONJ, 26% had maxillary BONJ, and 21% had lesions in both jaws. Histology revealed necrotic bone and sometimes inflammatory infiltrates. Cultures on 25% of patients revealed *Actinomyces* in 72%, *Candida albicans* in 8%, and *Escherichia coli* in 4%. All patients received prolonged antibiotic treatment, with 57% being cured. Thirty-six percent of patients had persistent BONJ, 1 patient died, and 3 patients had hyperbaric oxygen treatment without success. Risk factors included diabetes, smoking, alcohol use, poor oral hygiene, and chemotherapy. Patients with bone exposure of 1 cm generally responded well to local treatment and long-term antibiotics.

Conclusions: Risk factors were identified in this study that might contribute to the development of BONJ. Smaller areas of exposed BONJ respond well to conservative treatment. BONJ usually will develop only after prolonged (35 months) infusion, especially after invasive treatment.

Reviewer's Comments: This is a clearly written paper with patient presentations that are well documented. The discussion is excellent. BONJ is a good example of the adverse side effects that can result from otherwise very effective drugs.

Additional Keywords: BONJ

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HBO--Frequency of Use and Protocol

Patterns of Treatment of Osteoradionecrosis With Hyperbaric Oxygen Therapy in the United Kingdom.

Dhanda J, Hall TJH, et al:

Br J Oral Maxillofac Surg; 47 (April): 210-213

The majority of HBO centers in this study used pressures of 2.2 ATA at 90 minutes/session for 30 preoperative and 10 postoperative dives. The authors found many deviations from the Marx protocol as it relates to pressure, duration, and frequency of dives.

Objective: To determine the frequency of use of hyperbaric oxygen (HBO) and the specific protocols commonly utilized.

Design: Retrospective investigation involving 25 HBO chambers in the United Kingdom.

Methods: HBO chambers in the United Kingdom were classified according to the possibility of needing advanced life support during treatment. This resulted in 4 different categories for the use of HBO chambers. Most osteoradionecrosis (ORN) patients are treated in a category IV chamber, where patients are most likely not to need interventions or access during treatment. Surveys were used to determine whether the chambers treated ORN patients, and personnel then responded to the following questions: how many patients were treated, and what was the specific protocol?

Results: The authors found 25 centers that treated 273 patients with ORN. The majority of centers were primarily treating patients with multiple sclerosis (MS). Only 20% of centers used the Marx protocol of 2.4 ATA, while the MS centers tended to use lower pressures, primarily 2.0 ATA. The majority of centers used the Marx protocol of 30 preoperative dives and 10 postoperative dives; the remainder used 20 preoperative and 10 postoperative dives. The category I centers used 90 minutes per session, while the MS centers used 60 minutes per session. It appeared that centers using lower pressures also used lower treatment times for ORN patients.

Conclusions: The majority of HBO centers deviated from the Marx protocol for the treatment of ORN. The majority of centers treated patients at 2.2 ATA, rather than 2.4 ATA, for 90 minutes per session for a total of 30 preoperative and 10 postoperative dives. There was significant variability in the centers' protocols. The use of lower pressures appeared to be associated with shorter treatment times.

Reviewer's Comments: This is a very interesting paper on the subject that once again showed the lack of standardization in the use of HBO for the treatment of ORN. Our European colleagues are planning to evaluate the true efficacy of HBO for the treatment of ORN.

Additional Keywords: HBO

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IVRO Can Alleviate TMJ Symptoms

The Chronologic Prevalence of Temporomandibular Joint Disorders Associated With Bilateral Intraoral Vertical Ramus Osteotomy.

Jung H-D, Jung Y-S, Park H-S:

J Oral Maxillofac Surg; 67 (April): 797-803

Symptomatic TMJs may revert to normal after intraoral vertical ramus osteotomy.

Objective: To evaluate the long-term stability and improvement of symptoms associated with TMJ disorders after intraoral vertical ramus osteotomy (IVRO) for the treatment of prognathism.

Design: A retrospective study of the records of patients who had undergone IVRO for the correction of prognathism. Existing TMJ symptoms were diagnosed before and after surgery.

Participants/Methods: 217 patients who underwent IVRO for the correction of prognathism were included in the study. Patients were evaluated preoperatively and at 1, 3, 6, 12, 18, and 24 months after surgery. Mouth opening, joint clicking, and pain in the TMJ were evaluated at all examinations.

Results: A marked improvement in prior symptoms occurred up to the 2-year follow-up. A significant reduction was found in pain and preoperative joint noise. There was no increase in symptoms, and no new symptoms were found in patients who did not have symptoms before surgery. Mouth opening showed a 97% recovery at the 2-year follow-up.

Conclusions: IVRO can result in a marked improvement of preoperative TMJ symptoms of pain and joint noise.

Reviewer's Comments: Not only does this paper show a marked improvement in TMJ symptoms prior to surgery, but it also validates the use of IVRO for the management of these symptoms without having to enter the joint capsule.

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New Sinus Bone Formation Without Grafting

A Retrospective Study of the Effects of Sinus Membrane Elevation on Bone Formation Around Implants Placed in the Maxillary Sinus Cavity.

Jeong S-M, Choi B-H, et al:

Oral Surg Oral Med Oral Path Oral Radiol Endod; 107 (March): 364-368

Elevation of the maxillary sinus membrane without grafting may still result in new bone formation if the membrane is supported by a stable implant.

Objective: To determine the height of new bone formation in the maxillary sinus following insertion of implants into the maxillary sinus without additional bone grafts following sinus membrane elevation.

Design: Prospective clinical study.

Participants: 9 patients who needed implant treatment in the posterior maxilla.

Methods: Selection of the patients for this study was through use of CT scans and surgical reports documenting that implants were inserted into the maxillary sinus without grafting material after elevation of the Schneiderian membrane. Each patient had 4 to 6 mm of residual alveolar bone in the implant site. Primary stability of the implants was obtained in every case. All implants were inserted using a flapless procedure after exposing the lateral sinus wall and elevating the membrane through a vertical incision directly over the lateral sinus wall access site. After sinus membrane elevation and implant placement through the osseous sinus floor, the void between the membrane and floor was allowed to fill with coagulum, and the access flap was closed. All implants were 4 or 4.5 mm in diameter and 10 to 12 mm in length. The implants protruded 4 to 6 mm into the sinus cavity. Second-stage implant surgery and abutment connection was performed 4 months later.

Results: CT scans were done prior to implant placement and after 4 months. A computerized measuring technique was used to elevate the height of newly formed bone on the buccal and palatal sides of the implants. Postsurgical changes in crestal peri-implant bone levels were also evaluated using conventional dental radiographs. All implants had good primary stability, and membrane perforation did not occur. The sides of the implants within the sinus were covered with new bone. The apical portion of the implant was not covered by bone. Mean bone gain within the sinuses was 3.5 mm, while mean crestal bone loss around the implants was just 0.1 mm.

Conclusions: Elevation of the maxillary sinus membrane, support of the elevated membrane by an implant stably placed in 4 to 6 mm of residual alveolar bone, and clot accumulation beneath the elevated membrane leads to new peri-implant sinus bone up to the apical end of the implants within 4 months of the surgical procedure without sinus grafting.

Reviewer's Comments: This is another interesting study, albeit a small one, that demonstrates new sinus peri-implant bone formation without grafting. Not all sinus lifts need a bone graft as long as space is maintained for new bone formation.

Additional Keywords: Bone Formation

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Implants With Internal Sinus Lifts Without Grafts!

Implants Placed in Combination With an Internal Sinus Lift Without Graft Material: An Analysis of Short-Term Failure.

Gabbert O, Koob A, et al:

J Clin Periodontol; 36 (February): 177-183

Good short-term outcomes for implants placed simultaneous with internal sinus lifts without grafts can do well and demonstrate new apical bone formation.

Objective: To determine the short-term survival of implants placed in the posterior maxilla along with an internal sinus lift but no grafting material.

Design: Prospective clinical evaluation.

Participants: 36 study patients and 44 control patients were included.

Methods: Patients were separated into the study or control group depending on the residual posterior maxillary alveolar bone height. All subjects were in good health, were non-smokers, and had a preoperative radiographic examination to determine residual bone height. The radiographic examination was repeated immediately after implant placement and again 6 to 9 months later. A minimum of 3 mm of residual alveolar bone was required for implant placement. The sinus lifts were accomplished with an osteotome technique (Summers), with the intent of displacing the sinus membrane with a round-tip osteotome while completing the implant preparation. Ninety-two implants were placed in the 36 study patients (most were 8 to 10 mm long). The study implant length was between 3 and 6 mm above the sinus floor. Seventy-seven implants were placed in the control patients, all of whom had a minimum of 8 mm of alveolar bone below the sinus floor.

Results: After 9 months, implant failures were recorded. Four implants in the study group failed as did 2 in the control group. All failures occurred during the first 6 months after surgery before functional loading. Survival of implants after 9 months was >94% for both groups. During the sinus lift-implant insertion, 26% of the sinus membranes were disrupted, but seemed to have no effect on implant survival. Six to 9 months after implant placement, bone gain could be documented radiographically around the apical end of at least 30% of the implants.

Conclusions: Good, short-term outcomes resulted for implants placed simultaneously with internal sinus lifts without grafts for fixtures placed in 3 mm of residual alveolar bone. Apical bone gain was noted radiographically around many of the implants after 6 to 9 months.

Reviewer's Comments: This paper carefully describes the authors' surgical technique and the dimensions of implants used in the study. All implants were ITI fixtures with a sandblasted, large grit, acid-etched surface. Insertion torque 15 N cm for all implants that were hand ratcheted in place were common for all fixtures.

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Otolaryngologists Do Not Like PTs

Percutaneous Tracheotomy in Otolaryngology-Head and Neck Surgery Residency Training Programs.

Goldenberg D, Park SS, Carr M:

Laryngoscope; 119 (February): 289-292

Percutaneous tracheotomy has become a routine for many surgical and medical subspecialties, but not for most otolaryngology residency programs.

Objective: To determine the extent of percutaneous tracheotomy (PT) practices and training in otolaryngology head and neck surgery (OTO-HNS) residency training programs.

Design/Participants: Multi-institutional survey of 81 program directors.

Methods: A 19-question survey was sent to 102 OTO-HNS residency program directors. The survey asked questions about the program's current practices and opinions regarding PT. It also asked about the details of PT use in each specific program, the PT techniques employed, for opinions about the safety of PT, and the ear, nose, and throat (ENT) residents' exposure to PT. If the programs did not utilize PT on their service or teach this technique to their residents, program directors were asked why this was so.

Results: 81 of the 102 program directors (80%) eventually responded to the survey. Of the responders, 92% performed open tracheotomies on a regular basis, as did 80% of other hospital surgical services with residency training programs. Only 29% of the ENT programs performed PTs on a regular basis. Approximately 22% of the directors said their programs had done PTs in the past, but had now stopped doing them. The reasons given for not doing PTs included a lack of interest, prior complications, a lack of perceived need for PT, technical difficulties, and no attendings who did PTs. Six program directors said they had no interest in teaching this technique. In those programs where PT was utilized, the Ciaglia Blue Rhino method was exclusively used with simultaneous video bronchoscopy.

Conclusions: While OTO-HNS residency programs rarely use or teach PT, other hospital services are likely to practice and teach the technique. It is common with general surgery, trauma surgery, cardiothoracic surgery, neurosurgery, and ICU attendings and residents.

Reviewer's Comments: The authors feel the obvious bias against PT may be the result of being asked to "bail out" colleagues from other services who are doing a PT where complications arise. They feel, ideally, that ENT residents should be trained and experienced with both open and PT procedures.

Additional Keywords: Percutaneous Tracheostomy

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Platform-Switching Helps Preserve Peri-Implant Crestal Bone

Platform-Switched Restorations on Wide-Diameter Implants: A 5-Year Clinical Prospective Study.

Vigolo P, Givani A:

Int J Oral Maxillofac Implants; 24 (January-February): 103-109

Implants restored with abutments of the same diameter appear to lose more crestal peri-implant bone in the first year of loading than do platform-switched implants with narrower abutments.

Objective: To compare crestal alveolar bone changes over a 5-year period around external hexagon, wide diameter implants restored with either matching diameter prosthetic abutments or with narrower, platform-switched abutments.

Design/Participants: Prospective clinical study that included 144 patients.

Methods: Over the 2-year study period, each patient who received a single 5 mm in diameter, external hexagon implant in the authors' practice was included in this evaluation. All of the implants were placed in single-tooth edentulous areas in the posterior maxilla or mandible. No bone augmentation procedures were required because there was enough bone height and width to accommodate the implants. All implants were placed by the same surgeon and were placed at the level of the alveolar crest. Radiographs were made just after implant placement to demonstrate the bone level in relation to the implant. Four months after placement, the implants were exposed and matching width or platform-switched prosthetic abutments were placed. Radiographs were repeated at this time. After placement of the crown restorations, patients were seen every 3 months for 1 year and every 6 months thereafter, with radiographs made at each visit. Alveolar crest bone levels were measured by the same blinded evaluator using a 6-power magnifying lens and compared over the study span.

Results: 182 implants 5 mm in diameter were placed in the 144 patients. All implants survived, were restored, and followed over the entire study period. Eighty-five of the implants were restored with diameter-matched prosthetic abutments. Ninety-seven implants were restored with narrower, platform-switched prosthetic abutments. After 1 year in function, marginal bone resorption around implants with same diameter abutments was 0.9 mm compared to 0.6 mm for platform-switched implants. In the subsequent second, third, fourth, and fifth years after restoration, no significant change in peri-implant marginal bone levels was noted in either group.

Conclusions: Platform switching is a viable method of helping preserve crestal bone around wide diameter, external hexagon implants. After 1 year, crestal bone changes around platform-switched implants appear the same as those restored with same-diameter prosthetic abutments.

Reviewer's Comments: The findings in this study were all with external hexagon, wide-diameter implants. Differences might be found with other implant types.

Additional Keywords: Platform-Switched Restoration

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Differences After ACGME Duty Hour Regulations

Four Years of Accreditation Council of Graduate Medical Education Duty Hour Regulations: Have They Made a Difference?

Shonka DC Jr, Ghanem TA, et al:

Laryngoscope; (March): epub ahead of print

Implementation of the ACGME mandated house staff duty hour restrictions did not improve patient care.

Objective: To measure compliance with the Accreditation Council of Graduate Medical Education (ACGME) resident work hour mandates and evaluate their impact on resident performance and patient care.

Design: Retrospective review of an otolaryngology residency program and associated hospital benchmark patient data.

Participants: The authors' otolaryngology department and 15 residents in a 5-year program.

Methods: For a 4-year period, the residents' duty hour violations were compiled and reviewed. Each individual's violations were recorded, compared by type of violation, grouped and compared to problems in each postgraduate year (PGY 1 to 5). Violations of the duty hour mandates for all of the residents also looked at service obligations at the time the violation occurred. To measure the effect on resident training and experience, annual Otolaryngology Training Examination scores were compared before and after the start of the ACGME hours mandate. Resident operative experiences before and after the start of the hours restrictions were evaluated. Finally, benchmark hospital standards, including admissions, mortality index, length of stays and 30-day readmission rates for the service, were studied.

Results: The 10-hour rule, which mandates a minimum of 10 hours off between duty shifts was the most common violation (with 91% of the total violations), followed by the 1 day off in 7 rule, the 80-hour maximum work week rule, and the 30-hour rule, which limits the resident to a maximum of 30 hours per shift. Most of the violations were noted during the resident's first and second years of training (24% during PGY-1 and 35% during PGY-2. Comparison of the residents' Otolaryngology Training Examination scores showed no significant differences between before and after the hours' restrictions, nor were there differences in the overall operative experiences. Finally, benchmark hospital standards did not change for this service after implementation of the hours restrictions.

Conclusions: In compliance with the ACGME, house staff work-hour restrictions can be accomplished in academic otolaryngology programs.

Reviewer's Comments: The number of papers we continue to see on this subject is indicative of the difficulty in being compliant with the regulations that were mandated almost 6 years ago. The consensus seems to be that no-one really likes the regulations, that patient care is not improved nor does it suffer, and that resident education is as good (or better) than it ever was. I have yet to see papers that document reduced medical errors as a result of these mandates, but we assume that this is the case.

Additional Keywords: Duty Hour Regulations

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Outcomes of Counterclockwise Rotations

Maxillo-Mandibular Counter-Clockwise Rotation and Mandibular Advancement With TMJ Concepts Total Joint Prostheses: Part I - Skeletal and Dental Stability.

Coleta KED, Wolford LM, et al:

Int J Oral Maxillofac Surg; 38 (February): 126-138

TMJ reconstruction and mandibular advancement utilizing the TMJ Concepts system, with concomitant maxillary osteotomies producing a counterclockwise rotation of the maxillo-mandibular complex, was found to be a stable combination over the study period.

Objective: To present the long-term stability in patients treated with mandibular advancement using TMJ prostheses in conjunction with maxillary Le Fort I osteotomies resulting in a counterclockwise rotation of the maxillo-mandibular complex.

Design/Participants: Retrospective clinical investigation that included 47 female patients.

Methods: All patients presented with end-stage bilateral or unilateral TMJ disease, and underwent TMJ reconstruction and mandibular advancement utilizing the TMJ Concepts system and maxillary osteotomies resulting in a counterclockwise rotation of the maxillo-mandibular complex. No syndrome patients were involved in the study. Forty-three of the patients had bilateral TMJ reconstruction and 4 had a unilateral prosthesis with a contralateral sagittal split osteotomy. Cephalometric films were taken at appropriate times before and after surgery to determine the stability of the movements. All films were digitized for analysis.

Results: All initial landmarks were consistent with mandibular advancement with a counterclockwise rotation of the maxillo-mandibular complex. Initial changes in pogonion ranged from 2.1 to 42.1 mm (mean, 18.4 mm). The occlusal plane angle reduction ranged from 2.3 degrees to 37 degrees (mean, 14.9 degrees). The long-term analysis revealed a significant backward change of 0.4 mm at point A and 0.8 mm at the posterior nasal spine. All other remaining vertical and horizontal landmarks remained stable throughout the study period.

Conclusions: TMJ reconstruction and advancement utilizing the TMJ Concepts system and maxillary osteotomies resulting in a counterclockwise rotation of the maxillo-mandibular complex was found to be a stable procedure over the study period. Minor horizontal changes were noted in the maxilla, but the mandibular procedures remained stable.

Reviewer's Comments: A very nice long-term study, with great detail as to the presurgical work-up, regarding the surgical philosophy of the author. The combination of a counterclockwise rotation utilizing plate and screw stabilization resulted in a stable result over a long study period.

Additional Keywords: Stability

print tag: () Refer to original journal article.

Counterclockwise Advancement and Airway Changes

Maxillo-Mandibular Counter-Clockwise Rotation and Mandibular Advancement With TMJ Concepts Total Joint Prostheses: Part II - Airway Changes and Stability.

Coleta KED, Wolford LM, et al:

Int J Oral Maxillofac Surg; 38 (March): 228-235

Maxillo-mandibular advancement with TMJ prostheses and Le Fort I osteotomies resulting in a counter-clockwise rotation of the maxillo-mandibular complex produced a stable increase in the oropharyngeal airway dimensions.

Objective: To present the changes seen to the oropharyngeal airway following counterclockwise rotation of the maxillo-mandibular complex.

Design: Retrospective clinical investigation that included 47 female patients.

Methods: All patients underwent TMJ reconstruction and mandibular advancement with total joint prostheses, as well as a posterior down grafting of the maxilla or anterior superior repositioning, resulting in a counterclockwise rotation of the maxillo-mandibular complex. A total of 43 patients had bilateral TMJ prostheses placed, and the 4 patients who had a unilateral joint prostheses placed underwent a sagittal split osteotomy on the contralateral side. Cephalometric films were taken at appropriate postoperative times and digitized. Landmarks were used to determine the following changes: head position; airway changes; and changes in cervical curvature and hyoid position.

Results: Immediately postoperatively, changes in head position showed a significant flexure. No significant changes were noted during the study period as it relates to cervical curvature. The distance from the third cervical vertebra to menton was increased a mean of 11.7 mm, while the distance from the third cervical to hyoid was increased a mean of 3.2 mm. The narrowest retroglossal posterior airway space was increased a mean of 4.9 mm (range, 3.5 to 15.7 mm). Changes in airway space remained stable over the study period.

Conclusions: Mandibular advancement with TMJ total joint prostheses and counterclockwise rotation of the maxillo-mandibular complex resulted in improved oropharyngeal airway dimensions. The changes remained stable throughout the study period. Changes in head position were also found to improve pharyngeal airway dimensions.

Reviewer's Comments: A very nice study on a specific subset of patients with joint pathology, high occlusal plane angles and a class II skeletal relationship. It was nice to see that the airway changes remained stable throughout the study period, in some cases >10 years.

Additional Keywords: TMJ Prostheses

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Cherubism--What To Do?

Familial Cherubism: The Experience of the Moscow Central Institute for Stomatology and Maxillo-Facial Surgery.

Roginsky VV, Ivanovl AL, et al:

Int J Oral Maxillofac Surg; 38 (March): 218-223

Diagnosis of cherubism usually occurs between ages 2 and 7. Surgical intervention does not change the natural course of the disease, and radiotherapy should be avoided secondary to a lack of therapeutic benefit and the potential for complications.

Objective: To discuss the diagnostic difficulties, treatment options, clinical course, and outcomes associated with managing patients with cherubism.

Design/Participants: Retrospective clinical investigation that included 33 patients.

Methods: The study population consisted of 24 children and 9 affected parents presenting to a specific institution over a 30-year period. Radiographs were screened for the routine findings associated with cherubism, and all patients had their disease graded as per the VON WOWERN system. In 12 cases, conservative curettage was performed, radiotherapy was utilized in 5 cases, and 1 patient underwent a subtotal mandibulectomy followed by a cadaveric bone graft.

Results: The typical chronology of the disease is between 1 and 3 years of age, the first signs of the disease appear, and the diagnosis is made between 2 and 7 years of age. In the majority of cases (n=25), there was bimaxillary involvement, and in 8 cases only the mandible was involved. Oral signs included premature loss of dentition, malpositioned teeth, and 3 cases of gigantocellular epulis in the maxillary soft tissue. Transmission of the disease was seen from both paternal and maternal sources. Nontender cervical lymphadenopathy was seen in all patients during periods of active growth. Surgical interventions did not change the natural course of the disease; pathological ingrowth was seen in all cases treated with conservative curettage. Treatment with radiotherapy had a negative impact with resultant bony malformation, with aging in 2 cases and no therapeutic benefit to the remaining 3 cases.

Conclusions: Surgery has no preventative benefit in cherubism and needs to be reserved for cases of extreme functional impairment. Radiotherapy should be avoided secondary to a lack of therapeutic benefit and the potential for complications. Molecular biology studies seem to show that the disease process may be linked to a tumor necrosis factor-alpha-mediated systemic inflammation.

Reviewer's Comments: A very nice review of a rare disease process. Not much has changed regarding treatment; avoid at all costs, since the majority of cases will resolve with puberty.

Additional Keywords: Radiotherapy

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Clopidogrel and Proton Pump Inhibitors--Is There a Risk?

Risk of Adverse Outcomes Associated With Concomitant Use of Clopidogrel and Proton Pump Inhibitors Following Acute Coronary Syndrome.

Ho PM, Maddox TM, et al:

JAMA; 301 (March 4): 937-944

Patients taking clopidogrel and a PPI following hospitalization for ACS have a greater risk of death or rehospitalization than patients taking clopidogrel alone.

Objective: To determine the risk of clopidogrel taken in combination with proton pump inhibitors (PPIs).

Design/Participants: Retrospective cohort investigation involving 8205 patients.

Methods: Patients and data collected for this study came from the Cardiac Care Follow-Up Clinical Study, with data collected from the Veterans Health Administration. Data came from all patients discharged from 127 Veterans Administration (VA) hospitals with a diagnosis of acute MI or unstable angina. Data on the use of clopidogrel and PPIs was taken from VA outpatient pharmacy data. The outcome measured was mortality or rehospitalization for acute coronary syndrome (ACS) in 2 groups: clopidogrel alone and clopidogrel in combination with a PPI.

Results: Of the 8205 patients, 5244 (63.9%) were taking clopidogrel in combination with a PPI at the time of discharge or during follow-up and 2961 (36.1%) were not prescribed a PPI. In the clopidogrel plus PPI group, rehospitalization or death from ACS was 29.8% over the mean follow-up period of 521 days. In the clopidogrel alone group, the rate of rehospitalization or death over the same study period was 20.8%. When multivariate analysis was performed to factor out comorbidities, a significant difference was noted between groups.

Conclusions: Patients discharged from the hospital taking clopidogrel and a PPI had a greater rate of death or rehospitalization for ACS than patients discharged from the hospital taking only clopidogrel. It appears that the PPI may interfere with the efficacy of clopidogrel.

Reviewer's Comments: This was a very interesting paper with a significant finding since a PPI is often prescribed to reduce the incidence of a gastrointestinal bleed in patients taking clopidogrel and aspirin.

Additional Keywords: Clopidogrel/PPIs

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Managing the TMJ Patient

Current Thinking in Temporomandibular Joint Management.

Sidebottom AJ:

Br J Oral Maxillofac Surg; 47 (March): 91-94

Conservative interventions need to be exhausted prior to considering open joint procedures. Total joint success is dependent on the number of open joint procedures performed prior to total joint replacement.

Conservative therapies, such as nonsteroidal anti-inflammatory drug (NSAID) medications, occlusal splints, rest, and patient education can be used to treat >80% of patients presenting with TMJ disorders. Occlusal equilibrations have been shown to be of no clinical benefit and are relatively contraindicated according to the Cochrane assessment. NSAIDs are indicated for the initial pain management of these patients, and myofascial pain needs to be differentiated from intracapsular pain. Myofascial pain and muscle spasms can be further treated with "needling" of the trigger area with local anesthetics without epinephrine. The etiology of this pain relief is secondary to an inflammatory response and resultant increased vascularity and/or the endogenous release of endorphins in the region of the needling. Botulinum toxin injections into the muscle spasms have also been therapeutic. The author has found that approximately one-third of patients get long-term relief, one-third get short-term relief, and approximately one-third get little or no relief following the injections. Intra-articular injection of local anesthesia has been found to be effective as both a diagnostic and therapeutic technique. If a volume of >2 mL is infused into the joint space, it may actually produce joint distension and a hydro-dissection, which may relieve the pain associated with an acute closed lock. The use of intra-articular injections of steroids is not indicated. Arthroscopy and arthrocentesis are also indicated for acute restricted opening cases. There is no evidence that arthroscopy is more effective than arthrocentesis, but arthroscopy may provide more diagnostic information secondary to direct visualization. As for open procedures, there is little evidence to support disc repositioning in the absence of severe restrictive opening, and condylar shave techniques are relatively contraindicated secondary to joint surface damage. Condylar neck osteotomies appear to be effective secondary to the resultant condylar sag. Discectomy is indicated when the disc is irreparable and disc replacement remains debatable. Total joint replacement is the last stage in managing joint issues. The success of total joint replacement is dependent upon the total number of joint procedures performed prior to total joint replacement; therefore consideration needs to be made regarding multiple interventions into the joint before considering total joint replacement. National and international data need to be collected regarding total joint surgery to fully define their indications and long-term outcomes. Due to the relatively small number of total joints placed, it remains a procedure for experienced surgeons, not the surgeon who occasionally performs total joint surgery.

Reviewer's Comments: A very nice short review on the subject. I am sure that each of us could find some concerns with certain aspects of this paper, but it still remains a nice short concise review on the subject.

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