

## Oral Bisphosphonates Rarely Cause Implant Failure

*Characteristics of Implant Failures in Patients With a History of Oral Bisphosphonate Therapy.*

Martin DC, O’Ryan F, et al:

J Oral Maxillofac Surg 2010; 68 (March): 508-514

There is a low incidence of implant failure in patients taking oral bisphosphonates.

**Design/Objective:** A retrospective questionnaire study of patients taking oral bisphosphonates over a minimum of 3 years.

**Participants/Methods:** 8,572 patients taking oral bisphosphonates were queried by questionnaire about any dental problems. Any patients who reported problems were further queried and an attempt was made to get an oral examination. Only those patients having oral implants were entered into this study; there were 589 such patients. Implant failures were reported by 16 patients. The type of failure and the time of failure were queried as well as whether the failure was in the mandible or maxilla.

**Results:** 16 patients reported failures of implants out of 589 patients on bisphosphonates who had implants. The 16 patients had 26 implant failures. Twelve implants failed in the maxilla and 14 implants failed in the mandible. Early failures were experienced in 8 patients, while 10 patients had late failures of 18 implants. None of the 16 patients met the American Association of Oral and Maxillofacial Surgeons criteria for bisphosphonate-related osteonecrosis of the jaw.

**Conclusions:** There is a very low incidence of implant failure in patients who are on oral bisphosphonates. Sixteen patients out of 589 had failures of 26 implants. The failure rate for implants in patients taking oral bisphosphonates is quite low.

**Reviewer's Comments:** This is an excellent study and shows that failure of implants in patients taking oral bisphosphonates may not be much higher than a control group of the same demographics who are not on these drugs. (Reviewer-Edwin D. Joy, Jr, DDS).

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Keywords: Oral Bisphosphonate Therapy, Implant Failures

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## Does Immediate Implant Placement in Extraction Sites Preserve Alveolar Bone?

*A Prospective, Randomized-Controlled Clinical Trial to Evaluate Bone Preservation Using Implants With Different Geometry Placed Into Extraction Sockets in the Maxilla.*

Sanz M, Cecchinato D, et al:

Clin Oral Impl Res 2010; 21 (January): 13-21

Placement of implants into immediate extraction sites will still be accompanied by significant buccal-palatal and vertical alveolar bone loss.

**Objective:** To see if there is an association between the size of the void between implants and socket walls and the amount of subsequent buccal or palatal bone loss when using implants of 2 different configurations.

**Design:** Prospective, randomized, controlled, parallel-group multicenter study.

**Participants:** 93 patients in whom 99 implants had been placed.

**Methods:** Teeth to be removed with immediate implant placement were extracted using a periosteal elevator. The sites were randomly allocated to have Microthread™ OsseoSpeed, Astra Tech cylindrical, or tapered implants placed. Gaps left between the implant and the buccal and palatal osseous walls of the extraction site were measured as was the vertical height of the defect from the alveolar crest to where the implant body directly contacted alveolar bone. The horizontal distance from the implant platform to the surface of the buccal and palatal surface of the alveolar bone was also measured. Lastly, the vertical height of the buccal and palatal crest of bone in relation to the implant platform was measured. For both the cylindrical and tapered implants, surrounding soft-tissues were sutured to allow semi-submerged healing. Sixteen weeks later, second stage surgery was done, and 22 weeks after placement, prosthetic restorations were delivered. Clinical and radiographic evaluations of the alveolar bone dimensions and remodeling were completed at the 16-week uncovering appointment.

**Results:** 50 cylindrical and 49 tapered implants were placed. Baseline characteristics in both groups were similar, and all but 2 sites healed uneventfully. On both the buccal and palatal alveolar processes, there was a loss of 1.2 and 1.0 mm of buccal bone width and 0.6 and 0.4 mm palatal cortex width. The osseous gap between the implant and the crestal alveolar bone closed 1.4 and 1.6 mm buccally and 0.4 and 0.9 mm palatally with both types of implants. The vertical depth defect was markedly reduced with both cylindrical and tapered implants facially and palatally. With both types of implants, there was vertical loss of peri-implant crestal bone of approximately 1 mm on the buccal aspect and 0.5 mm palatally. In all dimensions, the differences with the 2 different implant configurations were not significant.

**Conclusions:** Immediate implant placement in fresh extraction sites fails to totally eliminate vertical alveolar ridge bone loss, regardless of the implant configuration. The bone loss on the buccal is about twice that seen on the palatal side of the alveolus. However, the marginal osseous defect between the implant and the socket wall rapidly fills with a coagulum, which is replaced by bone.

**Reviewer's Comments:** Alveolar bone loss in both vertical and horizontal dimension occurs even if implants are immediately placed in fresh extraction sites. This reduction in alveolar dimension appears to be independent of the implant geometry. (Reviewer-Sterling R. Schow, DMD).

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Keywords: Implants, Extraction Sockets, Maxilla, Bone Preservation

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## How to Determine Arthroscopic Puncture Point

*Relationship Between the Canthal-Tragus Distance and the Puncture Point in Temporomandibular Joint Arthroscopy.*

Talaat WM, McGraw TA, Klitzman B:

Int J Oral Maxillofac Surg 2010; 39 (January): 57-60

Anatomic variability should be considered when selecting a puncture point for TMJ arthroscopy; 70 mm may be a significant canthal-tragus measurement.

**Objective:** To investigate the relationship between the length of the canthal-tragus line and the distance relative to the tragus where an arthroscopic puncture point is indicated.

**Design:** Cadaveric study by 2 investigators. **Materials:** 11 cadaveric heads with 22 joints (4 males and 7 females).

**Methods:** The cadaveric heads were carefully positioned, and the canthal-tragus line was marked. First, a puncture point for the arthroscope cannula and trocar was identified by a measurement of 7 mm anterior to the mid-tragus and 2 mm below the canthal-tragus line. A standard arthroscope with a 2.8 mm cannula was introduced via a trocar perpendicular to the skin and parallel to the ear canal. The trocar and cannula was carried through skin and tissue to contact the zygomatic process and then advanced inferiorly to penetrate the capsule to the proper depth. With the arthroscope still in place and supported in the initial joint position, a dissection was accomplished to expose the position of the arthroscope while still secure in the area of the joint. It was then noted whether the arthroscope was within the superior joint compartment (success), or anterior or posterior to the superior joint compartment (failure). The canthal-tragus line was measured by a single surgeon following completion of the dissection. A duplicate procedure was then performed on the opposite side TMJ of each cadaveric head, except for the fact that the puncture point was marked 10 mm from the mid-tragus and 2 mm below the canthal-tragus line.

**Results:** The mean canthal-tragus distance measured was 72 mm (range, 65 to 83 mm). A trend was noted, as follows, defining a canthal-tragus measurement of 70 mm as a critical point. When the canthal-tragus line measured >70 mm (Group B), a 100% success rate in upper joint compartment penetration was noted when the puncture point was 10 mm anterior to the mid-tragus and 2 mm below the canthal-tragus line. In those cadavers with canthal-tragus line measurements of  $\leq$ 70 mm (Group A), a 100% success rate of arthroscopic introduction was obtained through puncture sites measured at 7 mm anterior to the mid-tragus and 2 mm inferior to the canthal-tragus line. The converse is also true; 100% failure of successful arthroscopic insertion with either posterior placement using 7.2 mm distances (Group B), and anterior placement using 10.2 mm distances (Group A) was noted.

**Conclusions:** A canthal-tragal distance of 70 mm is a break point in this study with regard to determining the introduction site of an arthroscope into the upper joint compartment.

**Reviewer's Comments:** This is an interesting study with a 100% success or failure rate with a critical measurement defined after completion of data acquisition. It makes intuitive sense due to anatomic variability. (Reviewer-Michael L. Ellis, DDS).

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Keywords: TMJ Arthroscopy, Canthal-Tragus Distance, Puncture Point

Print Tag: Refer to original journal article

## Stage of Oral Tongue Cancer May Affect Treatment, Prognosis

*Survival and Patterns of Relapse in Patients With Oral Tongue Cancer.*

Rusthoven KE, Raben D, et al:

J Oral Maxillofac Surg 2010; 68 (March): 584-589

Stage I and II cancer of the tongue may be undertreated and, hence, has a poor prognosis.

**Objective:** To evaluate the survival and relapse for patients with carcinoma of the oral tongue.

**Design:** A retrospective review of the medical records of patients treated for squamous cell carcinoma of the oral tongue.

**Participants/Methods:** 50 patients treated at the University of Colorado in Denver with a diagnosis of squamous cell carcinoma of the tongue were treated at this teaching hospital. Thirty-eight had newly diagnosed cancers and 12 had recurrent disease. Patients were treated with a combination of surgery and chemoradiotherapy. The recurrence rate and the survival rate of all patients were recorded. Patients with stage I and II disease were compared to patients with stage III and IV disease of the tongue as well as stage III and IV disease of the oropharynx. Of the 13 patients with newly diagnosed stage I and II disease, 7 did not receive adjuvant therapy after surgery.

**Results:** The median follow-up was 29 months for living patients. The regional control and freedom from relapse rate was 58% for the stage I and II disease and 83% for the stage III and IV disease. The 2-year survival rate for patients with stage I and II disease was 77% compared to 52% for patients with stage III and IV disease.

**Conclusions:** Patients with stage I and II disease tend to be treated with less aggressive therapy than patients with stage III and IV disease leading to a less favorable prognosis.

**Reviewer's Comments:** This is an interesting article showing that patients with a lower stage of squamous cell carcinoma of the tongue have a poor prognosis probably due to the fact that they are treated less aggressively than patients with more advanced disease. (Reviewer-Edwin D. Joy, Jr, DDS).

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Keywords: Oral Tongue Cancer, Survival, Relapse

Print Tag: Refer to original journal article

## Are You Better Off Drunk If You Have a Wreck?

*Motor Vehicle Crashes: The Association of Alcohol Consumption With the Type and Severity of Injuries and Outcomes.*

Plurad D, Demetriades D, et al:

J Emerg Med 2010; 38 (January): 12-17

Motor vehicle trauma victims who are highly intoxicated have a higher incidence of severe head injuries and septic complications, but better adjusted survival rates than sober patients with similar injuries.

**Objective:** To evaluate the effects of alcohol ingestion on injury patterns, injury severity, and outcomes in motor vehicle crashes (MVC).

**Design:** Review of trauma database records.

**Participants:** 3025 patients for whom adequate data were available following an MVC.

**Methods:** Data collected for each patient included demographics, vital signs, Glasgow Coma Scale (GCS) score on admission, Injury Severity Score (ISS), body area Abbreviated Injury Score (AIS), presence or absence of spinal injury, blood alcohol level (BAL), complications, ICU length of stay, hospital length of stay, and survival. The 3025 patients were divided into 3 groups: (1) those with no alcohol "on board"; (2) the low alcohol group with a BAL  $\geq 0.005$  g/dL to  $< 0.08$  g/dL; and (3) the "high alcohol" group with a BAL  $\geq 0.08$  g/dL. The groups were compared across the entire study population, and then those who were severely injured (ISS  $> 15$ ) were separately compared.

**Results:** The no alcohol group, low alcohol group, and high alcohol group comprised 67%, 7%, and 26% of the study population, respectively. Higher BAL was most prevalent in younger patients, males, and Hispanics. Alcohol levels were positively associated with low GCS scores, while low BAL was associated with a higher incidence of spinal trauma. Between groups, there was no difference with respect to injury severity, body area AIS or admission hypotension. In the 479 severely injured patients with ISS  $> 15$ , high BAL was associated with a higher incidence of severe head injury. A statistically significant, but clinically insignificant, increase in hospital length of stay was noted for patients with low BAL. The victims with a high BAL had a significantly better survival rate than patients with similar injuries in the low BAL group. In severely injured patients, those with a high BAL had an increased incidence of sepsis in spite of a better survival rate.

**Conclusions:** In MVCs, the BAL is independently associated with sepsis, spinal fractures, and longer hospital stays. However, in this study, a high BAL, even in the severely injured, was associated with increased survival.

**Reviewer's Comments:** Lots to consider. Victims with really high BAL may have expired prior to Emergency Department admission. Also, intoxicated victims may seem to be worse off than similarly injured sober patients and be given higher levels of care initially. Is BAL a truly significant prognostic factor in this situation? (Reviewer-Sterling R. Schow, DMD).

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Keywords: Trauma, Vehicular Crashes, Alcohol Consumption

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## Does Less Bone Interface Equal Less Stability?

*Torque-Fitting and Resonance Frequency Analyses of Implants in Conventional Sockets Versus Controlled Bone Defects  
In Vitro.*

Akça K, Kökat AM, et al:

Int J Oral Maxillofac Surg 2010; 39 (February): 169-173

Resonance frequency analysis represented as an implant stability quotient should be supported by insertion torque values, particularly in immediate implant placement sites.

**Objective:** To compare insertion torque and implant stability quotient (ISQ) values of implants placed into conventionally prepared sites against those placed into sites altered with a controlled bone defect.

**Design:** Fresh frozen cadaveric specimens used for placement of implants into sites prepared in the anterior iliac crest. **Materials:** 16 implants placed into unaltered control sites and 16 implants placed into sites with a controlled bone defect.

**Methods:** Implants that were 3.3 mm in diameter and 12 mm in length were used for this cadaveric study. The 2 cadavers utilized were frozen within 24 hours of death and thawed for 48 hours prior to dissection. The control group consisted of sixteen 3.3 mm diameter implants placed into the anterior iliac crest in a conventional manner, prepared to a final diameter of 2.8 mm. The study group consisted of 16 implants placed into sites first prepared conventionally as in the control group, but then altered by increasing the diameter of the first 6 mm of the coronal preparation to a width of 4.2 mm. This resulted in a noncontact implant-bone void in the coronal 1/2 of the implant, that is, a 6-mm deep defect. Insertion torque values (ITV) were measured with a custom-made torque device with a sophisticated strain gauge measurement and data acquisition apparatus, and captured resonance frequency analysis (RFA) using the Ostell instrument. Statistical analysis, testing for normal distribution of data, then an independent *t*-test to compare the normal distribution, was completed along with descriptive statistics.

**Results:** Compared to the control group, ITV and ISQ values were decreased 47% and 38%, respectively, in the face of decreased bone support represented by the circumferential defect study group. The ITV and ISQ values did not always correlate; for example, an implant displaying a higher ITV than another implant had an ISQ value lower than the same implant. In the test group, a 4-fold increase in the ISQ standard deviation existed compared against the control group.

**Conclusions:** Decreasing the implant-bone interface results in decreased measured insertion torques and ISQs. The resonance frequency analysis providing an implant stability quotient may not be as reliable or accurate in critical size defects, and should not be solely relied on as a predictor of stability in compromised implant-bone interface sites.

**Reviewer's Comments:** No surprises here, less bone interface equals less stability. This study suggests that each 1% of vertical reduction of bone support results in a loss of 1% of insertion torque value obtained during implant placement into the iliac crest. Though it is intuitive that reduced implant-bone intimacy results in reduced implant insertion torque, this statement suggesting a positive linear relationship, in my opinion, cannot be supported by this study design. (Reviewer-Michael L. Ellis, DDS).

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Keywords: Resonance Frequency Analysis, Implant Torque Values, Implant Stability Quotient

Print Tag: Refer to original journal article

## Plates, Screws in Zygoma Make Excellent Orthodontic Anchorage

*Success of Zygomatic Plate-Screw Anchorage System.*

Eroglu T, Kaya B, et al:

J Oral Maxillofac Surg 2010; 68 (March): 602-605

Properly placed plates and screws can withstand large orthodontic forces for anchorage.

**Objective:** To evaluate the success of zygomatically placed plate-screw anchorage and to enumerate key points that help improve success.

**Design/Participants:** A prospective design of patients requiring anterior traction orthodontics using plates and screw anchorage for anterior retraction of the maxilla.

**Methods:** 74 zygomatic plates and screws were placed in 37 patients. The patients were separated into 2 groups. Group I consisted of 19 patients, and the zygoma anchors were put in bilaterally to distalize the maxillary anterior segment. Group II consisted of 18 patients, and zygoma anchors were applied to stabilize maxillary molars during retraction of the canines. The cases were evaluated for success of the anchorage devices. Success was described as stability of the anchorage plate throughout the entire orthodontic treatment. Failure was described as loss of the plate before the orthodontic treatment was completed.

**Results:** Only 1 plate out of 74 was lost before the completion of orthodontic treatment. There were 2 minor complications, which involved minor inflammation and infection treated with better oral hygiene and antibiotics without loss of the plates. The success rate for the plates was 98.6%, with the loss of only 1 plate out of 74.

**Conclusions:** The use of a plate and screw system attached to the zygomatic buttress can be excellent intrabony anchorage and may preclude the use of a head gear in cases of orthodontic maxillary retraction.

**Reviewer's Comments:** This excellent paper shows a success rate for an unobtrusive intraoral anchorage system which may preclude the use of a head gear, which, in fact, heavily relies on patient compliance for success. (Reviewer-Edwin D. Joy, Jr, DDS).

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Keywords: Implants, Anchorage System

Print Tag: Refer to original journal article



## Enucleation Plus Carnoy's Solution Reduces Recurrence Rate of KCOTs

*Two Modifications in the Treatment of Keratocystic Odontogenic Tumors (KCOT) and the Use of Carnoy's Solution (CS)—  
A Retrospective Study Lasting Between 2 and 10 Years.*

Gosau M, Draenert FG, et al:

Clin Oral Invest 2010; 14 (January): 27-34

Application of Carnoy's solution after enucleation of KCOTs markedly reduces the recurrence rate expected with enucleation alone.

**Objective:** To evaluate the effectiveness of Carnoy's solution (CS) as an adjunct to enucleation in the treatment of keratocystic odontogenic tumors (KCOTs).

**Design:** Retrospective records evaluation.

**Participants:** 34 patients with 36 histologically proven KCOTs.

**Methods:** The dimensions of the initially treated KCOTs were recorded retrospectively with 2-dimensional measurements from panoramic radiographs. All of the KCOT lesions had been treated with enucleation, with some being treated with modified CS for 3 minutes prior to enucleation. After enucleation, the cyst cavity was rinsed with a saline solution. There was no set protocol for the use or nonuse of Carnoy's, and the surgeon made the determination. The size or location of the KCOT was not considered in deciding to use or not to use the Carnoy's.

**Results:** 21 of the 34 patients were males, and the average patient age was 40.9 years. Thirty-four of the 36 lesions were found in the mandible, usually in the body or angle region; 2 lesions were found in the maxilla. None of the patients had nevoid basal cell carcinoma syndrome. All of the lesions were enucleated, and 14 were also treated with CS. Thirteen of the lesions recurred a mean of 33 months after treatment. All recurrent lesions were treated with a re-enucleation and CS. Enucleation of lesions without the use of Carnoy's had a 50% recurrence rate, while the recurrence rate when Carnoy's was used was just 14.3%. Larger KCOTs had a greater tendency to recur. During lesion curettage, the inferior alveolar nerve was visualized in 11 patients, 2 of whom had presurgical hypesthesia or anesthesia. After surgery, 6 patients (26.1%) had neurosensory deficits, but all had eventually recovered after 2 years.

**Conclusions:** Enucleation of KCOT lesions in combination with CS application significantly reduces the recurrence rate, usually with no long-lasting alveolar nerve disturbance.

**Reviewer's Comments:** For those who do not remember, Carnoy's is made up of 6 cc absolute alcohol, 1 cc glacial acetic acid, 3 cc chloroform, and 0.1 gm/mL of ferric chloride. Recommended application time is 3 minutes after which the cavity is rinsed with normal saline. (Reviewer-Sterling R. Schow, DMD).

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Keywords: Pathology

Print Tag: Refer to original journal article



## Erupt the Canines When Possible

*A Review of the Diagnosis and Management of Impacted Maxillary Canines.*

Bedoya MM, Park JH:

J Am Dent Assoc 2009; 140 (December): 1485-1493

Strongly consider the use of cone-beam computed tomography in the treatment planning of impacted maxillary canines.

**Objective:** To review the diagnosis and management of maxillary impacted canines.

**Design:** Comprehensive literature review of multiple databases. **Materials:** 50 years of publications and the bibliographies therein.

**Methods:** Publications were identified through PubMed and Cochrane Library, along with relevant bibliographies from these studies. Literature reviews, clinical studies, and radiographic studies were selected for review, along with specific papers from the last 10 years addressing recommended orthodontic and surgical management, and the conclusions are presented in this paper. The prevalence and etiology, diagnosis, and management of impacted maxillary canines are concisely presented.

**Results:** The most commonly impacted teeth, except for third molars, are the maxillary canines. Two percent of the population exhibit impacted maxillary canines, and 8% of the time, the impactions present bilaterally. It is twice as common in females, and presents twice as often in the maxilla over the mandible. One-third are labially impacted, and two-thirds are palatally impacted. Though insufficient arch length is a likely factor for labially impacted maxillary canines, the etiology is unknown for those on the palate. Patients who present with over-retention of the deciduous maxillary canine, delayed eruption, or other absent teeth in the arch are suspect for impacted maxillary canines. Palatal bulging, lateral incisor coronal tipping, and absence of the labial canine bulge at 9 to 10 years of age are all indicators of a possible impacted maxillary canine. Multiple imaging techniques can be used, but cone-beam computed tomography will most accurately identify the impacted canine in multiple planes. Extracting maxillary deciduous canines at age 11 allows successful eruption of the successor in 91% of cases if the canine crown is distal to the midline of the lateral incisor root, but only 64% are successful when the crown is mesial to the lateral incisor root. If the impacted maxillary canine is angulated  $\geq 31$  degrees off the vertical axis, recovery trends unsuccessful. The degree of overlap with the lateral incisor root is a greater indicator of outcome than angulation. Sometimes, surgical exposure will facilitate natural eruption of palatally impacted teeth, but often, a bonded closed-coil spring with eyelets is required. For labially impacted maxillary canines, gingivectomy, apically positioned flaps, and closed techniques may all be successful. The authors recommend an attempt at eruption of the impacted canines before removal of the first premolars, thereby, if the eruption is unsuccessful, the canine may be removed and the adjacent first premolar can be orthodontically positioned in the place of the canine.

**Conclusions:** Erupt the canines when possible, as they are very important functionally and esthetically.

**Reviewer's Comments:** This is a very concise review of a difficult orthodontic issue. Cone-beam technology has been very helpful in the diagnosis and management of impacted maxillary canines. (Reviewer-Michael L. Ellis, DDS).

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Keywords: Impacted Maxillary Canines, Diagnostics, Management

Print Tag: Refer to original journal article

## Successful Nerve Repair Depends on Time From Injury to Repair

*Retrospective Review of Microsurgical Repair of 222 Lingual Nerve Injuries.*

Bagheri SC, Meyer RA, et al:

J Oral Maxillofac Surg 2010; 68 (April): 715-723

The success of the repair of LN injury decreases with increased length of time from the injury to the surgical repair.

**Objective:** To evaluate the demographics, timing, and outcome of microsurgical repair of the lingual nerve (LN).

**Design:** Retrospective record review of patients who had microsurgical repair of an injured LN.

**Participants/Methods:** 222 patients with LN injuries had their records reviewed for this study. Data analyzed included age, gender, etiology of injury, chief complaint, interval from injury to surgical intervention, intraoperative findings, surgical procedure, and neurosensory status at final evaluation. Categories for improvement were useful sensory recovery or unsatisfactory or no improvement of sensation. Patients were categorized as early or late repair according to whether the repair was done within 6 months of the injury or after 6 months. Age of the patient was also statistically analyzed and matched for chance of sensory recovery.

**Results:** The most common cause of LN injury was surgery for the removal of a mandibular third molar. The most common complaint was numbness or numbness with pain. The average interval from injury to surgery was 8.5 months. The most common surgery was excision of stump neuroma with neuroorrhaphy, after which 146 patients had complete sensory recovery and 55 patients had recovery to useful sensory function; 21 patients had no or inadequate improvement. A shorter interval between nerve injury and repair resulted in a greater chance of improvement. With each month that passed, the odds of improvement decreased by 5.8%. There was a significant correlation between patient age and outcome. This represented a 5.5% decrease in the chance of recovery for every year over 45.

**Conclusions:** Repair of the LN has the best chance of recovery if done within 9 months after injury. The likelihood of recovery decreased when the repair occurred >9 months after injury and in older patients.

**Reviewer's Comments:** The data in this study will certainly be quoted frequently, especially in malpractice cases where the injury occurred >9 months prior to surgical repair. At this time, there is no standard of care as to how to manage LN injury after removal of a third molar; however, the data in this study will certainly add to the knowledge base in this frequent injury. (Reviewer-Edwin D. Joy, Jr, DDS).

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Keywords: Microsurgery, Lingual Nerve

Print Tag: Refer to original journal article

## Should Cricothyrotomy Be Converted to Tracheotomy?

*Conversion of Emergent Cricothyrotomy to Tracheotomy in Trauma Patients.*

Talving P, DuBose J, et al:

Arch Surg 2010; 145 (January): 87-91

No study or evidence is available that demonstrates any benefit to converting a cricothyrotomy to a tracheotomy, even for prolonged ventilation support.

**Objective:** To look at the potential for airway stenosis after cricothyrotomy as compared to similar complications after tracheotomy and to look at complications associated with conversion of cricothyrotomy to tracheotomy.

**Design:** Medical literature review using PubMed and Ovid MEDLINE databases. **Materials:** 17 retrospective and 3 prospective published cricothyrotomy series.

**Methods:** 153 publications about cricothyrotomy were identified, but only 20 had sufficient data to analyze the patient population types, nature of the cricothyrotomy procedure and tube placement, clinical outcomes, and follow-ups.

**Results:** From the 17 retrospective reports and 3 prospective studies, a total 1134 cricothyrotomies were documented. From this group, 511 surviving patients were available for follow-up 2 to 60 months later. The mean follow-up time was 16 months. Chronic subglottic stenosis could be documented in just 11 (2.2%) of the 511 survivors. Seven of these patients needed surgical intervention to attempt to correct the stenosis. In trauma patients, 452 cricothyrotomies were performed resulting in just a 1.1% rate of chronic subglottic stenosis. For conversion of cricothyrotomy to tracheotomy, only 2 series with a total of 15 patients were found in the reviewed literature. In these reports, the complication rate was 53.3%, with a mortality rate of 28.6% in 1 of the series.

**Conclusions:** Complication rates following cricothyrotomy, even in emergency situations, seem to be low, even though there is not a lot of literature to support this finding. There is even less evidence to suggest benefits of cricothyrotomy conversion to tracheotomy, and no available literature suggests this conversion.

**Reviewer's Comments:** The best part of this paper is its commentary or discussion. Surgical dogma does not recommend elective cricothyrotomy and, when cricothyrotomy has been done, recommends early conversion to tracheotomy. Potential complications of both procedures include subglottic stenosis, voice change, dysphagia, and more serious adverse events. Conversion from cricothyrotomy to tracheotomy may not be warranted in many situations, and some authors suggest there is little or no benefit to this practice. (Reviewer-Sterling R. Schow, DMD).

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Keywords: Trauma, Cricothyrotomy, Tracheotomy

Print Tag: Refer to original journal article

## Midline-Open Tracheotomy -- Is It Still Useful?

*Complications of Midline-Open Tracheotomy in Adults.*

Straetmans J, Schlöndorff G, et al:

Laryngoscope 2010; 120 (January): 84-92

Open tracheotomy is a safe procedure that should be taught in academic centers. It is indicated for many high-risk patients.

**Objective:** To collect and evaluate the complications associated with a well-known open tracheotomy technique in an unselected population in an academic setting.

**Design:** Retrospective records evaluation.

**Participants:** 295 patients in whom 303 open tracheotomies had been performed.

**Methods:** Data collected for this study included patient demographics, risk factors, reasons for hospitalization, indication for tracheotomy, pre-tracheotomy intubation time, period of cannulation, condition at the end of hospitalization, intraoperative and postoperative complications, and complication management.

**Results:** 63.7% of the patients were males, and the average patient age was 57.8 years; 81.7% of the patients were artificially ventilated in an ICU. Emergency tracheotomy was done for 13 patients and 81 patients were felt to be high risk. The mean postoperative observation time was 69.2 days. Patients had been intubated an average of 11 days prior to tracheotomy. In half the patients, the period of cannulation was between 1 week and 1 month. Just 37% ultimately left the hospital decannulated, and 32% died in the hospital (none as a result of the open tracheotomy). There were 8 major complications, 5 of which were not tracheotomy related. There were 4 cases of pneumonia and 1 case of pneumothorax. In the high-risk patients, there were 14 related minor complications and there were 25 in the low-risk patients. No deaths could be related to the tracheotomy procedure. Postoperative bleeding of a minor nature occurred with just 4.2% of the patients. Local wound infections made up 50.8% of the minor complications. The symptomatic tracheal stenosis rate in patients who could be observed >14 days was just 1.25%.

**Conclusions:** Most tracheotomy procedures were done by inexperienced surgeons under supervision of an experienced mentor. Open tracheotomy is still needed in some anatomically compromised or high-risk patients. It should be taught and practiced in surgical training programs.

**Reviewer's Comments:** Almost all the tracheotomies in many hospitals are now percutaneous dilatational procedures. This has compromised teaching of open tracheotomy techniques. The ability to do an open tracheotomy with speed, skill, and confidence is still important. (Reviewer-Sterling R. Schow, DMD).

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Keywords: Midline-Open Tracheotomy, Complications, Anesthesia, Analgesia

Print Tag: Refer to original journal article

## Morbidity After Iliac Crest Harvesting Is Moderate to Low

*Donor Site Morbidity After Bone Harvesting From the Anterior Iliac Crest.*

Schaff H, Lendeckel S, et al:

Oral Surg Oral Med Oral Path Oral Radiol Endod 2010; 109 (January): 52-58

Harvest of anterior iliac crest generally is associated with less morbidity when done with smaller incisions and a cylinder osteotome than when done with larger incisions and chisels and saws for obtaining corticocancellous blocks.

**Objective:** To evaluate and compare complications and morbidity of anterior iliac crest bone harvest with a small incision using a cylinder osteotome versus a more open procedure to harvest corticocancellous block grafts.

**Design:** Retrospective clinical records and patient questionnaire review.

**Participants:** 75 patients from a group of 134 patients who had anterior iliac crest bone harvests were included.

**Methods:** All 134 patients were contacted and 75 ultimately agreed to be study participants and respond to the authors' questionnaire. All patients included in the study had their iliac harvest completed at least 1 year before the study evaluation. For those whose harvest had been done using a cylinder osteotome, an incision of only about 2 cm in length was used to expose the iliac crest. Minimal soft tissue reflection was needed to introduce the cylindrical osteotome that penetrated the iliac crest to harvest cancellous bone. When corticocancellous blocks were harvested, the incision was extended a few centimeters, the iliacus muscle was elevated medially, and blocks of the needed size were harvested from the iliac wing medial surface. Variables evaluated for each procedure were demographics, indication for treatment, harvest techniques, length of hospital stay, pain, scarring, functional limitations and sensory disturbances.

**Results:** The mean patient age was 47.6 years, and just over 50% of the patients were males. The most frequent harvest technique utilized the short crestal incision and cylinder osteotomes (64 of the 75 patients). Almost all of the donor sites were from the right iliac crest. Patients complained of more postoperative pain with corticocancellous block harvests. Incision length was a mean 3.5 cm when using cylinder osteotomes and 5.0 cm when harvesting corticocancellous blocks. Eighty-five percent of the patients stayed in the hospital for 3 to 6 days. Only 1 patient needed a secondary surgery because of a fracture of the anterior superior iliac spine. There were no surgical-site infections. Almost all patients had some postoperative pain, but this persisted in just 4%. Women reported more pain than men. Most patients were pain free by 4 weeks postoperative; 22.7% of the patients had postoperative sensory disturbances, but just 2 of the 75 had persistent paresthesia. Sixty-four percent of the patients had functional impairments, most lasting  $\leq 1$  month. Almost all patients (92%) had aesthetic incision healing.

**Conclusions:** Morbidity after iliac harvest is low to moderate, regardless of either technique used. Before surgery, potential complications should be openly discussed with patients.

**Reviewer's Comments:** It was interesting that there did not appear to be any significant difference in what patients could expect following the 2 procedures. Harvest of corticocancellous blocks had a tendency to be more painful and of longer duration, but not remarkably so. (Reviewer-Sterling R. Schow, DMD).

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Keywords: Grafts, Bone Harvesting, Anterior Iliac Crest, Site Morbidity

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## NobelActive Implants -- Fun, Relatively Easy to Use

*Clinical Evaluation of the NobelActive Implant System: A Case Series of 107 Consecutively Placed Implants and a Review of the Implant Features.*

Irinakis T, Wiebe C:

J Oral Implantology 2009; 35 (December): 283-288

The NobelActive implant has high initial stability, bone condensing and redirecting capability, and built-in platform shifting.

**Objective:** To evaluate the claimed properties of the NobelActive implant system (ie, high initial stability in all bone types, condensing property, redirecting capability and built-in platform switching).

**Design:** Clinical experience. **Materials:** Consecutively placed implants in an unknown number of patients.

**Methods:** 107 consecutively placed NobelActive implants from the practices of 2 surgeons were prospectively evaluated. The implants were placed in all areas of the oral cavity in all types of bone with or without simultaneous bone grafting. The insertion torque was documented in all cases as was the quality of bone. The ability to redirect the fixtures was also evaluated. Mean follow-up time was 9.25 months.

**Results:** In the mean 9.25-month follow-up period, just 2 of 107 implants were lost. For implants immediately placed in extraction sites, the average insertion torque was 52.9 Ncm. For implants placed in a delayed fashion after extraction, the average insertion torque was 51.4 Ncm. In type IV bone, the average insertion torque was 49.7 Ncm. In softer type IV bone, the authors underprepared the implant sites. In these areas, during implant insertion, the high screw pitch and long thread wings promoted fast implant insertion with horizontal condensation of bone producing high torques. Because too much compression might cause bone cell necrosis, implants can be reversed to cut some of the newly threaded areas of bone partway through insertion and then be re-directed into the prepared sites. The ability to change implant direction after site preparation was verified and could be done without detrimental effects on initial implant stability. This was especially effective when access was sufficient to allow using a straight manual implant driver as opposed to a surgical handpiece or a manual torque wrench. The regular platform implant width is 4.3 mm with the head of the implant necked down to 3.9 mm for a platform switching effect. The wider 5.0 mm implant necks down to 3.9 mm at the fixture head. This fixture worked well in the anterior maxilla, but not so well in molar regions where the narrow head compromised crown emergence profiles.

**Conclusions:** NobelActive implants exhibit the manufacturer's properties. They are especially useful in anterior esthetic areas and in non-molar extraction sites because of their high initial stability.

**Reviewer's Comments:** This implant has many features that make it fun and relatively easy to use. It does not, however, replace the need for traditionally shaped tapered and straight-walled implant fixtures. (Reviewer-Sterling R. Schow, DMD).

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Keywords: Implants, Corkscrew Design, NobelActive

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## Safe, Simple, Cost-Effective Tx for Chronic Recurrent TMJ Dislocation

*Autologous Blood Injection as a New Treatment Modality for Chronic Recurrent Temporomandibular Joint Dislocation.*

Daif ET:

Oral Surg Oral Med Oral Path Oral Radiol Endod 2010; 109 (January): 31-36

Patients with chronic recurrent TMJ dislocation may be successfully treated by injecting autologous blood into the superior joint space and the pericapsular tissues.

**Objective:** To evaluate injections of autologous blood as a treatment for chronic recurrent TMJ dislocation.

**Design:** Randomized, clinical study.

**Participants:** 30 patients suffering from chronic recurrent TMJ dislocation.

**Methods:** In the 70's and 80's, several clinicians reported on an intra-articular injection of autologous blood as a treatment for chronic recurrent TMJ dislocation. In 2009, this technique was again reported and stimulated the authors to further evaluate variations of this treatment for the same purpose. The 30 patients included in the study were randomly divided for treatment of their bilateral recurrent dislocations into 2 groups. Fifteen patients in one group had 2 mL autologous whole blood injected into the superior joint space. The 15 patients in the second group had 1 cm autologous blood injected into the superior joint space and 1 cc into the pericapsular tissues. For both groups, an elastic bandage was placed for 24 hours after injection to limit joint motion. All patients were given ibuprofen for 1 week. Patients were followed at 2 and 4 weeks postinjection and again at 3, 6, and 12 months later. All patients had pretreatment and long-term radiographs and incisal opening measurements.

**Results:** Before injections, patients were dislocating  $\geq 2$  times a week. All patients had digital radiographs that showed complete dislocation. All patients tolerated the injections and had no significant complications. By 2 weeks after injection, 73% of the patients injected only in the superior joint space and 84% of those injected in both the joint space and pericapsular tissues were no longer dislocating. By 1 month later, 2 patients injected in the joint space only and 1 patient injected in both areas started to re-dislocate. Those 3 patients were then treated surgically. The remaining patients have not developed dislocations again. After 1 year, successfully treated patients had a maximum incisal opening decrease ranging from 3.6 to 5.3 mm (usually more for those injected in both areas). Follow-up radiographs showed no destructive changes in the bony compartments of the joints.

**Conclusions:** Injections of autologous whole blood into the superior joint space and pericapsular tissues of the TMJ is a safe, simple, cost-effective, and usually successful way to treat chronic recurrent TMJ dislocation.

**Reviewer's Comments:** I personally have not tried this. In this study, and in others cited by the authors, there were no reports of ankylosis or significant loss of joint mobility following autologous blood injection. (Reviewer-Sterling R. Schow, DMD).

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Keywords: TMJ Dislocation, Treatment, Autologous Blood Injection

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## Do you Recommend Antibiotic Prophylaxis for Third Molar Surgery?

*Antibiotic Prophylaxis in Third Molar Surgery: A Randomized Double-Blind Placebo-Controlled Clinical Trial Using Split-Mouth Technique.*

Siddiqi A, Morkel JA, Zafar S:

Int J Oral Maxillofac Surg 2010; 39 (February): 107-114

There is no significant difference in the incidence of infection with or without antibiotic prophylaxis in the healthy patient.

**Objective:** To determine if antibiotic prophylaxis is warranted to reduce complications following third molar surgery.

**Design:** Split-mouth, double-blind, clinical trial with placebo control.

**Participants:** 100 healthy patients with all third molars present; 62 females and 33 males completed the study.

**Methods:** Third molar position classifications were assigned to each tooth prior to extraction, and all participants were consented and subjected to single-sided third molar removal surgeries 3 weeks apart following randomization into 2 groups. Group 1 received a preoperative dose of either 1 g of amoxicillin or a glucose placebo 1 hour before a unilateral surgery. This was then repeated at 3 weeks on the contralateral side with the opposite regimen. Group 2 received 1 g of amoxicillin or a placebo 1 hour prior to the first surgery, followed by 500 mg of amoxicillin (or placebo) every 8 hours for 2 postoperative days. Group 2 then had surgery on the contralateral side with a regimen opposite to the first one received. A single operator provided all surgical procedures under local anesthesia, and a single researcher assisted with the data. Standardized surgeries were performed, with full thickness flaps and bone removal and sectioning with irrigation where indicated. All flaps were closed with Vicryl® sutures. Postoperative pain control and mouthwash with chlorhexidine was standardized. The patients were evaluated on day 3, 7, and 14 for pain using a visual analog scale, facial swelling, trismus, temperature, purulence, and alveolitis. All variables were statistically analyzed within and across treatment groups. **Results:** No differences were detected between the groups regarding tooth position or difficulty in removal. Overall, 6 infections out of 380 extractions were noted, at a rate of 2%. Four of the infected sites presented in Group 1, 3 in the placebo group and 1 in the prophylaxis group. Three infections were noted at day 3, and 1 occurred 3 weeks postsurgically in the placebo group. None were seen at day 7 or 14. In Group 2, two infections were recorded on the same patient, 1 on each side following each surgery, both on postoperative day 3. Swelling and pain measures were insignificant statistically, and trismus also showed no significance between the groups. A significance in trismus was noted with relation to the degree of impaction. Two patients in Group 2 had a temperature >38°C at day 3.

**Conclusions:** Careful surgery decreases postoperative complications. The controversial use of antibiotic prophylaxis will continue despite evidence to the contrary.

**Reviewer's Comments:** The debate continues! This well controlled study clearly demonstrates that there is no need for antibiotic prophylaxis for the routine removal of third molars in healthy patients. Practitioners should continue to use their best clinical judgment in this clean/contaminated environment, particularly with deeply impacted teeth or compromised hosts. (Reviewer-Michael L. Ellis, DDS).

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Keywords: Antibiotic Prophylaxis, Third Molar Surgery

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## Avoiding the DPA and Need for Turbinectomy During Maxillary Repositioning Surgery

*Postoperative Skeletal Stability and Accuracy of a New Combined Le Fort I and Horseshoe Osteotomy for the Superior Repositioning of the Maxilla.*

Yoshioka I, Khanal A, et al:

Int J Oral Maxillofac Surg 2009; 38 (December): 1250-1255

Superior Le Fort I movements of the maxilla of >3.5 mm may be more stable if a modified horseshoe osteotomy is utilized.

**Objective:** To review a technique of superior maxillary repositioning via segmentalization of a posterior maxillary horseshoe segment and to evaluate the stability of this technique.

**Design:** Prospective study of 19 consecutive double-jaw orthognathic surgeries.

**Participants:** 15 females and 4 males divided into 2 groups based on the amount of maxillary impaction.

**Methods:** Group 1 included 9 patients requiring <3.5 mm of maxillary impaction; all received traditional Le Fort I impaction and mandibular surgery. Group 2 included 10 patients requiring >3.5 mm of maxillary impaction; all received traditional Le Fort I impaction supplemented by a posterior mid-palatal horseshoe osteotomy following down-fracture. The osteotomy began bilaterally at the posterior extent of the maxilla and extended anterior in an arched form meeting in the midline of the maxilla, medial to the molar roots but lateral to the descending palatine artery (DPA). When bony interferences persisted, this posterior segment was segmentalized into 3 segments of posterior palate. Traditional bone-plate fixation methods were utilized for both groups; the mandibular surgery was then accomplished. Standardized lateral cephalometric radiographs were obtained 2 weeks prior to surgery and at specific time points up to 1 year. Measurements at point of maxillary tuberosity (PMT), the first molar cusp, and A point were obtained and carefully compared with standardization assured using X and Y coordinates for accurate linear measurements projecting changes in position, and this was accomplished by a single investigator for impartiality. Paired *t*-tests were used to compare between the 2 groups.

**Results:** No injury to the DPA or palatal soft tissue was noted on any patient, and no nonunions or other compromise to the maxilla occurred. Abnormal contours of the palate were self-correcting. The mean predicted impaction in Group 1 was 3.06 mm, and the surgery resulted in an impaction mean of 2.82 mm. The mean predicted impaction in Group 2 was 5.05 mm, and the surgery resulted in an impaction mean of 4.84 mm. Both groups enjoyed a very accurate postsurgical result. Measurements at Point A and PMT, representing horizontal and vertical stability, remained stable and statistically insignificant across all time points in the study.

**Conclusions:** Though no control was utilized for either group, the data suggests that the segmentalized horseshoe method is a stable alternative for superior maxillary repositioning.

**Reviewer's Comments:** This study does not compare the technique against a control group demonstrating the same magnitude of movement, nor does it offer evidence of comparable retention of airway dynamics measured against conventional methods including partial turbinectomy. The refined segmentalization of the posterior hard palate into 3 pieces unnecessarily places at risk the integrity of the palatal mucosa, in the face of controversial benefit provided by the preservation of the descending palatine artery. (Reviewer-Michael L. Ellis, DDS).

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Keywords: Le Fort I Osteotomy, Horseshoe Osteotomy, Superior Repositioning of Maxilla, Stability

Print Tag: Refer to original journal article

## What's Your Surgical Treatment Algorithm for Mandibular Condylar Fractures?

*Reappraisal of the Surgical Strategy in Treatment of Mandibular Condylar Fractures.*

Lee J-W, Lee Y-C, Kuo Y-L:

Plast Reconstr Surg 2010; 125 (February): 609-619

High condylar neck fractures exhibit an increased incidence of pain, malocclusion, and condylar erosion and resorption.

**Objective:** To review variables associated with condylar fractures and offer an algorithm to address management and optimize treatment with presentation of 4 cases.

**Design:** Retrospective analysis of records and radiographs.

**Participants:** 23 patients, 11 males and 12 females with an average age of 26 years, with 30 condylar fractures and other associated facial bone fractures secondary to trauma, falls, and motorcycle accidents.

**Methods:** All patients were operated by a single surgeon, and all received open reduction and internal fixation through a face-lift incision providing direct visualization of the fracture. Periodic postsurgical follow-up ensued. Postoperative images included panoramic and CT examinations at an average of 3 months to assess angulation deformities, resorption or erosion, and changes in the position of plates and screws. Statistics reviewed characteristics of the fractures to include obliquity and comminution, along with complications such as TMJ pain, joint noises, open or closed locks, deviation upon opening, asymmetry, ankylosis, and others. Relationships between independent variables were evaluated to determine what factors were associated with given complications.

**Results:** High-level fractures with a fracture segment shorter than 2 cm resulted in increased pain, malocclusion, and condylar deformation. The angle of the fracture and the presence of comminution highly influence outcomes. Comminution was found frequently in the high-level fracture. Condylar dislocation was a significant factor in increased overall morbidity. Contact surface area between fracture segments and fixation methods were insignificant when evaluated against treatment results.

**Conclusions:** Low-level fractures, defined as those with a proximal segment >2 cm, enjoy a more favorable outcome when addressed with open reduction and internal fixation. High-level fractures, defined above, are fraught with more difficult outcomes, particularly when comminution is present. Strong pull of the lateral pterygoid on the medial surface of the proximal fragment can lead to postsurgical instability, with or without plating. The high-level fracture should be given strong consideration for closed reduction if appropriate occlusion can be obtained. Immediate costochondral grafting can be considered in grossly comminuted intraarticular fractures.

**Reviewer's Comments:** This article presents a nice algorithm focusing on the surgical treatment of condylar fractures, based on the size of the condylar proximal segment. Complications are largely the same between open and closed reduction, save for the risks to the facial nerve in the open technique. Attention to plating principles, anatomic form and function, and postoperative physiotherapy are all paramount to success in any management strategy for condylar fractures. (Reviewer-Michael L. Ellis, DDS).

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Keywords: Condylar Fractures, Condylar Neck, Condylar Head

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## Aggressive Management of ONJ May Be Warranted in Recalcitrant Cases

*Surgical Management of Bisphosphonate Induced Osteonecrosis of the Jaws.*

Williamson RA:

Int J Oral Maxillofac Surg 2010; 39 (March): 251-255

Antibiotics, surgical debridement, and tension-free closure compose the triad of success in the surgical management of bisphosphonate-induced ONJ.

**Objective:** To review cases of bisphosphonate-induced osteonecrosis of the jaws (ONJ) that failed conservative management and evaluate these cases following surgical debridement.

**Design:** Prospective study of those referred for ONJ management following nonresponse to conservative measures.

**Participants:** 25 females and 15 males averaging 64 years of age with recalcitrant ONJ following conservative, nonsurgical management were included. Patient diagnoses included simple osteoporosis, breast cancer metastasis, prostate metastasis, multiple myeloma, and Paget's disease.

**Methods:** All patients began with 3 months of palliative, conservative management consisting of pain medications, antibiotics, chlorhexidine rinses, and minimal debridement of sequestra. With no progress at 3 months, a clinical and radiographic assessment was provided. Those with progressive symptoms were given preoperative antibiotics of either amoxicillin (1 g), or if allergic, clindamycin 600 mg. Complete surgical debridement with removal of necrotic bone and associated teeth followed, assuring removal of all sharp edges of bone. Bone was then carefully reduced to allow tension-free closure. Two weeks of postsurgical antibiotics consisted of 500 mg of amoxicillin 3 times per day or 450 mg of clindamycin 4 times per day. The patient was followed at specific intervals, and a radiographic examination was performed at 1 year or sooner with persistent symptoms. Patients deemed necessary to continue bisphosphonate medications for control of their disease were allowed to do so.

**Results:** Patients were followed from 6 to 48 months, and appropriate dental follow-up care was mandated. All patients (100%) healed without sequelae following this regimen.

**Conclusions:** ONJ is progressive. Experienced surgical debridement of necrotic bone in recalcitrant ONJ cases may be successful, as long as careful attention is provided to chemotherapeutics, soft tissue handling, and close dental follow-on care. It is important to remember that some cases will be poor responders to either conservative or surgical management.

**Reviewer's Comments:** ONJ as a result of bisphosphonate therapy can add misery to the difficult existence experienced by cancer patients, and many of these patients are not provided an alternative to conservative management. The authors of this paper experienced 100% success with effective surgical management following failure of conservative management, with careful attention to surgical technique combined with chemotherapeutic management and close follow-up. Note that 29 out of 40 cases in this study involved a nonhealing extraction site as the etiology. (Reviewer-Michael L. Ellis, DDS).

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Keywords: Surgical Management, Bisphosphonate, Osteonecrosis

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## Scope or Cut? A Review of Salivary Gland Management

*Recent Advances in the Management of Salivary Gland Disease.*

Shekar K, Singh M, et al:

Br J Oral Maxillofac Surg 2009; 47 (December): 594-597

Extracapsular lumpectomy of parotid tumors provides fewer complications and a comparable recurrence and survival rate as superficial parotidectomy.

**Objective:** To review salivary gland papers in the *British Journal of Oral and Maxillofacial Surgery* from 2007 to 2009 along with related papers from other journals and address controversial management strategies.

**Design:** Retrospective literature review.

**Participants:** Papers published during the last 2 calendar years, to include short communications, from the *British Journal of Oral and Maxillofacial Surgery*.

**Methods:** The authors reviewed the papers for specific areas of interest and controversy, to include facial nerve studies, salivary stones and obstructive sialadenitis, surgical approaches, complications, sialosis, and unusual presentations.

**Results:** Surgical identification of the facial nerve through various techniques during parotidectomy, superficial or deep, in order to preserve its function remains controversial. The antegrade technique, a more conventional approach to define the main trunk of the facial nerve prior to entry into the parotid gland, has been used less frequently by those who prefer retrograde approaches that are deemed easier and more selective. If the main trunk does not need to be identified based on tumor size or position, exposing the main trunk may unnecessarily place the more proximal nerve at risk. In other studies, a majority preferred the antegrade technique by a margin of nearly 9:1. Commonly, a combination of both techniques is utilized. Extracapsular lumpectomies have been shown to provide the same level of effectiveness as superficial or deep lobe parotidectomies with regard to recurrence and survival over 10 years. Face-lift incisions are preferred for parotidectomy, and flaps should be considered to address residual hollowing at the mandibular angle. Nasal intubation obviates mandibular rotation and hindrance to dissection posterior to the mandible. Frey syndrome, now treated with Botox, is a problem with superficial tumors, and the use of interpositional grafts like acellular dermal matrix is helpful. Stones in the submandibular gland, if in the parenchyma or hilum, should be treated by excision, while those found in the distal aspects of the duct warrant sialoendoscopy. Unsuccessful sialoendoscopy is converted to excision of the gland, and care should be taken with regard to the lingual nerve with extended sialoendoscopy. Sialosis is associated with diabetes, alcohol and drug abuse, bulimia, and liver disease, and should be investigated with MRI. Sialocele may be associated with mid-face trauma.

**Conclusions:** Surgical approaches continue to be controversial, and surgeon preference will ultimately dictate an efficacious approach.

**Reviewer's Comments:** This is a nice review of recent advances and mainstays of treatment. The authors clearly review new considerations, while recognizing conservative philosophies. When results from the newer techniques fail to accomplish a non-surgical objective, for example, with an ineffective retrieval of a sialolith, the surgical management strategies are the fall-back position. Nevertheless, these excellent management techniques allow the head and neck surgeon to remain vigilant for new technologies and methods. (Reviewer-Michael L. Ellis, DDS).

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Keywords: Salivary Gland Dz, Surgery, Pathology, Management

Print Tag: Refer to original journal article