

CTMAX QUARTERLY

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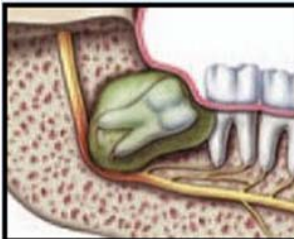
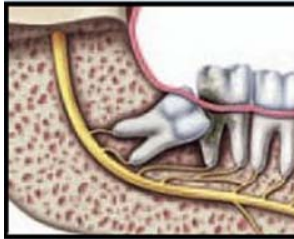
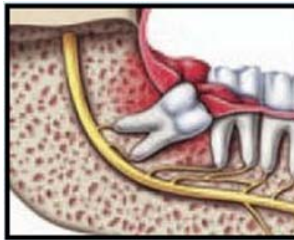
CURRENT RECOMMENDATIONS FOR THE TREATMENT OF THIRD MOLARS

Patients come in to the dental office with considerable variation in the presentation of their third molar teeth. For the patient with pain due to pericoronitis, caries or periodontal infection the decision to recommend removal of the third molar teeth is straightforward. The decision to refer a patient for third molar surgery becomes less clear when pain is not present and issues of age, symptoms, tooth location and medical comorbidity are considered.

Proper diagnosis and management of caries and periodontal disease improves the prognosis for a patient's dentition. This includes not only treating active disease, but also recommending full

coverage restorations for teeth likely to fracture or pocket reduction versus tooth extraction in periodontally compromised sites. Patients often question the decision to treat asymptomatic sites. It can be very difficult to explain to patients that the failure to treat potential problems when they are identified can later present as a much more difficult or hopeless situation to manage. Consider the vertical root fracture in a patient previously recommended for cusp coverage.

Presented here is clinical and scholarly information about diagnosis and management of third molars.



SPECIAL POINTS OF INTEREST:

- *What does current literature state about retained third molars and periodontal disease?*
- *For how long should a patient's third molars be monitored?*
- *Does the risk for problems vary with the position of impacted third molars?*
- *How does age affect the pathology and treatment of third molar teeth?*

AGE-RELATED RISK FOR THIRD MOLAR SURGERY

It is intuitive that with increased age, patients develop medical comorbidities and closer proximity of the third molars to surrounding structures. Historically the recommendations for third molar extraction under age 30 has been based upon better bone healing in that

age group (Int J Oral Maxillofac Surg. 1991 Feb;20(1):18-24). Recent scholarly work has identified that risk for complications of third molar surgery is significantly higher for age over 25 years when other factors are controlled for (J Oral Maxillofac Surg 65:1685-1692,

2007). Specifically, patients over 25 years old are 46% more likely to have complications such as bleeding, nerve injury, infection, dry socket, trismus and unplanned additional surgery compared to patients under 25 years old. (see 'Age-Related Risk' on page 2.)

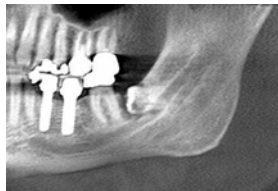
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High Risk 68 yo



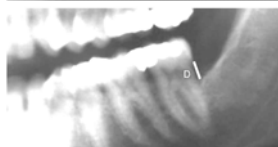
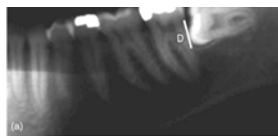
32 yo with bone loss



Invasive Carcinoma



Ameloblastoma



From: *IJOMS* 34; 756-60, 2005

RETAINED THIRD MOLARS REQUIRE LIFELONG MONITORING

Except for the large carious lesion seen on the right, all of the other situations seen in these radiographs were painless. At the top left are panorex and Cone Beam images for a 68 yo with asymptomatic, severe periodontal disease and an extremely high risk extraction due to nerve and root proximity. Below that is severe periodontal bone loss in a 32 year old at site #17, 18. The next image down shows what proved to be invasive carcinoma (see PDL changes #17). And finally the bottom image

shows an ameloblastoma, also asymptomatic, in a teenager; she has since undergone resection of the mandible.

If third molar surgery is not recommended, lifelong treatment will be required. This treatment will take the form of clinical exam, radiographic survey, vigilant hygiene and likely repeated scaling and root planning to maintain these difficult to clean sites. Failure to diagnose third molar presence and associated pathology can have dire consequences, which are



fortunately not common in practice. Lifelong exam, imaging and cleaning of retained third molars becomes costly. Plans must be in place for monitoring all retained third molars, indefinitely, for common and sometimes serious associated diseases.

SECOND MOLAR PERIODONTAL ATTACHMENT AND THIRD MOLARS

Current research led by Dr. Raymond P. White Jr. examines many aspects of third molar pathology and treatment, including the role of age.

A White study of asymptomatic third molars demonstrates 25% of patients to have probing depths > 5 mm in the third molar region with a significantly higher rate in age > 25 years (*IJOMS* 60: 1227-33, 2002).

Visible third molars in older patients are associated with a 1.5 higher risk of periodontal disease (*JOMS* 63; 179-84, 2005).

A split-mouth third molar study demonstrated increased pocket depths at non-extraction sites and increased bone height in extraction sites over time (*IJOMS* 34; 756-60, 2005).

A similar study shows statistically significant increased rates of

probing depths > 4 mm over time in retained third molar sites, compared to extraction sites (*J Oral Maxillofac Surg* 67:245-250, 2009).

Work in progress shows the mesioangular impaction to carry the worst prognosis if the tooth is retained.

AGE-RELATED RISK (CONTINUED FROM PAGE 1)

The study describes the risk for any complication related to third molar surgery for all age groups to be less than 19%. It is rare to have serious complications related to dentoalveolar surgery that are not due to medical comorbidity. To avoid complications, patients who are older or suffer from medical illness, often require preoperative testing and medical consultation. The pre-

operative workup of older patients can more frequently include advanced imaging such as cone beam CT scan to study the relationship of the third molars to the surrounding structures.

Scholarly work supports that complications are less frequent when patients are treated for their third molars at less than 25 year of age. Decreased costs

from preoperative tests and advanced imaging, less time out of work to manage complications and improved safety all support the treatment of patients for third molar surgery under age 25 when possible.

THIRD MOLAR POSITION AND INFECTION RISK

With caries and periodontal disease, infection is a common pathology of third molar teeth. The soft tissue operculum over a partially visible third molar is highly susceptible to trauma and food impaction. The impingement of this operculum during mastication is painful and the infections that develop can lead to significant morbidity.

The teeth at highest risk for development of pericoronitis are vertical in orientation and

have usually less than half of the distal portion of the tooth within the ramus (*Clin Oral Invest* (2008) 12:9-14; *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2006;102:725-32).

The path of spread for pericoronitis is to the submandibular space, the lateral pharyngeal space and, less frequently, buccal to the buccal and submasseteric spaces. Infection of the first two spaces can be life threatening. Peri-

coronitis should be managed aggressively with prompt evaluation, debridement and antibiotic therapy.

Parents often ask if the teeth will 'erupt the rest of the way.' When teeth erupt to the occlusal plane, no further eruption occurs without loss of the opposing dentition. Because of severe infection risk, evaluation of partially visible third molars should be early and prior to onset of symptoms when possible.



Vertical impaction with inflamed distal operculum #17

WHAT ACCOUNTS FOR SO MANY IMPACTED THIRD MOLARS?

We include this quick explanation for the many patients and parents who ask "why does this happen?"

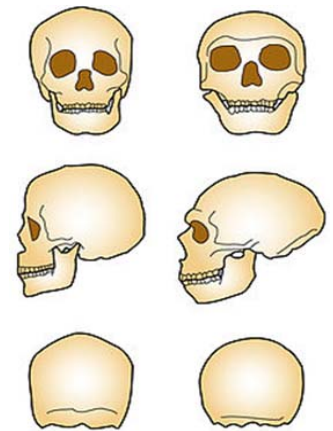
There exists a significant body of anthropologic literature on the evolution of the human dentition. The foods eaten by modern man require significantly less masticatory force compared to the ripping and tearing required of primitive

man. The masseter muscle function is theorized to be the reason for increased posterior mandibular arch space and a lower incidence of third molar impaction in primitive man (*Am. J. Phys. Anthropol.* 53, 173-87, 1980).

Studies have demonstrated an increase in the exclusion of third molar teeth to have increased from approximately

11-12% in prehistoric man to the approximately 20% seen in modern man (*Am. J. Phys. Anthropol.* 79, 207-15, 1989).

When we consider this theory and fluoride in drinking water, improved dental care and the subsequent decreases in loss of teeth, the impaction of third molar teeth due to limited space is no surprise.



Modern man on left, Neanderthal man on right

CTMAX AT "MISSION OF MERCY" IN 2011

This April the Connecticut Mission of Mercy was held in Waterbury. All of the doctors and some staff devoted to the cause volunteered to provide free dental care to the many people that presented for treatment. The experience was fun and rewarding and we were able to treat a large number of patients requiring oral surgery.

We were lucky enough to work with some assistants from other practices that were interested in surgery. Our practice will continue to provide this valuable service and look forward to next year's event. With any luck we might see you there in 2012!





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Our Mission Statement

All of us at **Connecticut Maxillofacial Surgeons, LLC**, are dedicated to the highest quality of care in the specialty of Oral and Maxillofacial Surgery. We take pride in providing contemporary clinical care in a full scope of the specialty as well as serving in a leadership capacity for the future of our specialty on both a local and national level. CMS, LLC can truly be described as a unique group of service-oriented professionals whose aim is to provide the highest level of patient care in combination with a maximum of comfort, sensitivity, and compassion for each and every individual.

Through our presence on the Internet we hope to move beyond the realm of merely providing clinical care in the classic sense. First and foremost, we would like to further close the information gap between us and our patients. A more ambitious intent would be to not only fulfill a regional endeavor but also provide a broader understanding of our specialty on a global level. Through a depth of experience and resources that we possess as a group, we hope to provide an ever increasing knowledge base accessible by all of those with any interest.

Definition of Oral & Maxillofacial Surgery:

Oral and Maxillofacial Surgery is a medical and dental specialty of surgery which involves the diagnosis, surgery and adjunctive treatment of diseases and defects involving both the functional and aesthetic aspects of the hard and soft tissues of the oral and maxillofacial region. (American Dental Association) More simply put in layman's terms, the oral and maxillofacial surgeon is the orthopedic surgeon of the facial region. He or she is an individual who addresses problems ranging from the removal of impacted teeth to the repair of facial trauma. He or she may be a doctor you would visit to:

- Have a [tooth extraction](#).
- Have teeth replaced by having [dental implants](#) inserted.
- Have oral surgical procedures performed in the office under outpatient [ambulatory anesthesia](#).
- Have a [jaw cyst or tumor](#) diagnosed, removed and reconstructed.
- Have your jaw aligned with [orthognathic surgery](#).
- Have you jaw joint repaired with [TMJ surgery](#).
- Have [jaw reconstruction](#) following cancer surgery.
- Have your facial bones realigned after [facial trauma](#).

MEET THE STAFF: THE FARMINGTON OFFICE

The Farmington Office is conveniently located on Farmington Avenue. Located only a few minutes from Route I-84 the office is easily accessed from Hartford, West Hartford, Newington, Unionville, and Bristol. The office sits across from the Exchange and at the base of the UCONN Health Center. The address for this location is 291 Farmington Ave, Farmington, CT and our doctors and staff can be reached at telephone number (860) 678-7528



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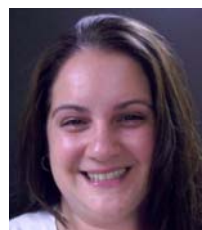
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