



Statement by the American Association of Oral and Maxillofacial Surgeons Concerning the Management of Selected Clinical Conditions and Associated Clinical Procedures

Bone Grafting After Removal of Impacted Third Molars

Section 1: Parameters of Care as the Basis for Clinical Practice

Introduction

This statement is intended to summarize the procedures to be followed in the management of patients presenting for care by oral and maxillofacial surgeons. The definitive guide to the management of such patients is the *Parameters of Care: Clinical Practice Guidelines for Oral and Maxillofacial Surgery (ParCare '07)*. Any references used in the development of this statement can be found in the Parameters. This statement is not intended as a substitute for that document but rather as a synopsis of the information contained in the Parameters.

Use of Parameters in Clinical Practice

The ultimate judgment regarding the appropriateness of any specific procedure must be made by the individual surgeon in light of the circumstances presented by each patient. Understandably, there may be good clinical reasons to deviate from the parameters. When a surgeon chooses to deviate from an applicable parameter based on the circumstances of a particular patient, the surgeon is well advised to note in the patient's record the reason for the procedure followed. Moreover, it should be understood that adherence to the parameters does not guarantee a favorable outcome.

The outcome of any surgery may be affected by the surgeon's lack of access to a potentially useful drug or device as a result of regulatory restrictions or product liability litigation. Outcome may also be affected by the decision of an insurer to deny coverage for a procedure or other services deemed necessary by the patient and the surgeon. If an insurer or other payer declines to authorize services that the surgeon regards as required by sound professional practice, the surgeon may have an obligation to protest the decision. A surgeon who protests the decision on behalf of the patient should explain to the payer why the procedure at issue would be in the best interest of the patient. The surgeon should document this action.

The American Association of Oral and Maxillofacial Surgeons (AAOMS) recognizes that this Statement may be used by hospitals and other institutions, managed care organizations, insurance carriers and other payers, attorneys in professional liability cases, and legislators and regulators concerned with health care policy. However, the document was not specifically developed for reimbursement, credentialing, or litigation uses. The AAOMS cautions that these uses involve various considerations that may be beyond the scope of this document.

Section 2: Bone Grafting After Removal of Impacted Third Molar Teeth

Preface

Bone grafting after removal of impacted third molar teeth is a controversial subject with regard to efficacy, definition of defect, and appropriate patient population. The focus of this paper is to discuss the situations that might be more likely to benefit from bone grafting procedures.

Bone Grafting After Removal of Impacted Third Molars

Indications

AAOMS ParCare '07 addresses the indications for therapy for deformities and defects of the alveolar complex. In the instance of a third molar extraction site, the indications for therapy would be a significant osseous or soft tissue defect. This defect might result in a situation where the second molar is unstable, has increased likelihood of periodontal disease, or in which there is chronic infection and/or pain.¹

Goals

The goals of bone grafting would include eliminating bony defects, improving periodontal status, providing increased stability for the second molar, and eliminating pain or infection.

Predictors of Postoperative Bony Defects

Predictors of postoperative bony defects distal to the second molar after third molar removal include the following: 1) Age at time of removal; 2) size of preoperative defect; 3) size of contact area between the second and third molars; 4) root resorption of the second molar; 5) pathological follicle associated with the third molar.² Of particular note is the age of the patient. Not only do patients under 26 years of age have fewer and less severe defects than patients over 26, but indications are that defects in the younger group improve over long periods of time. One study indicated that this improvement was seen as late as four years after removal.³ Certainly there is very little in the literature regarding this subject, especially long term prospective studies of large patient populations.

Treatment

Treatment may involve immediate grafting utilizing autogenous bone, freeze dried bone, bioactive ceramics, and/or membranes (resorbable or nonresorbable). Delayed grafting could utilize the same modalities. In instances where a permanent defect is more predictable earlier intervention is warranted. However, it seems prudent to delay treatment in patients under 26 years of age with few exceptions. Periodic follow-up in all marginal cases gives a better opportunity for the clinician to adequately evaluate the defect and to allow possible resolution without intervention.

Summary

Bone grafting of third molar extraction sites is indicated when bony defects are clinically significant. Much work remains to be done to adequately predict which surgical sites will result in defects that can or need to be improved with such techniques.

References

1. Parameters of Care: Clinical Practice Guidelines for Oral and Maxillofacial Surgery (ParCare '07) AAOMS, Rosemont, IL.

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2. "The Influence of Anatomical, Pathophysiological and Other Factors on Periodontal Healing After Impacted Lower Third Molar Surgery: A Multiple Regression Analysis" Kugelberg, C.F.; Ahlstrom, U.; Ericson, S.; Hugoson, A.; Thilander, H. *Journal of Clinical Periodontology*, Volume 18, 37-43, 1991.
3. "Periodontal Healing Two and Four Years After Impacted Third Molar Surgery: A Comparative Retrospective Study" Kugelberg, C.F. *International Journal of Oral and Maxillofacial Surgery*, Volume 19, 341-345, 1990.