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Daniel M. Laskin

Although the use of botulinum toxin has been recommended for the management of myofascial pain and dysfunction, the precise mechanism of its action remains undetermined and studies on its effectiveness are equivocal. Moreover, even if such treatment may temporarily relieve the symptoms, it does not address the cause of the problem. Also, its use is not free of potential complications. On this basis, botulinum toxin does not seem to be a logical treatment of myofascial pain and dysfunction.

Surgical Versus Nonsurgical Management of Degenerative Joint Disease **291**

Shravan Kumar Renapurkar

As knowledge of the complexity of myofascial pain and its interaction with temporomandibular joint disorders has increased, the use of surgical procedures to treat degenerative joint disease has decreased. The focus has moved from a “surgery-first” approach toward a more cautious one that involves nonsurgical treatment as the primary modality, then minimally invasive treatments, followed by open surgical modalities, when indicated. This article examines the current literature regarding the effectiveness of nonsurgical and surgical treatments for the management of degenerative joint disease.

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Bhavna Shroff

This article explores the long-standing controversy between orthodontics and temporomandibular disorders (TMDs). It reviews the history of this controversy and presents a discussion of the current literature concerning the potential role of malocclusion in the onset of TMDs. It also explores the potential role of orthodontic treatment as a possible cure for TMDs and concludes, based on the most current evidence-based literature, that there is no relationship.

Orthognathic Surgery as a Treatment for Temporomandibular Disorders **303**

M. Franklin Dolwick and Charles G. Widmer

Well-controlled clinical trials supporting orthognathic surgery as the primary management for temporomandibular disorders (TMDs) are lacking. Most published studies lack an adequate experimental design to minimize biases. Studies that did minimize some biases do support an overall reduction in the frequency of TMD signs and symptoms in some class III and class II patients who had orthognathic surgery. However, class II correction with counterclockwise rotation of the mandible increased TMD. Individual variability precludes the ability to predict TMD outcome after surgery. Irreversible therapies such as orthognathic surgery should not be primary treatments in the management or prevention of TMDs.

- Arthroscopy Versus Arthrocentesis for Treating Internal Derangements of the Temporomandibular Joint** 325
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- The introduction of arthroscopy of the temporomandibular joint represented a major change in the management of internal derangements and led to the realization that reestablishing joint mobility by arthroscopic lysis and lavage was as effective as surgically restoring disc position. It was subsequently shown that such treatment could be done without joint visualization, which raised the question of whether the inability to visualize the joint and perform other surgical manipulations limited its usefulness. A comparison of the literature shows that, although their effectiveness is essentially the same, arthrocentesis is simpler, has less morbidity, and has fewer complications than arthroscopic surgery.
- Discectomy Versus Disc Preservation for Internal Derangement of the Temporomandibular Joint** 329
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- Anterior disc displacement with or without reduction is a common finding in symptomatic and asymptomatic individuals. When symptomatic and associated with dysfunction it requires an intervention. Once nonsurgical management fails and the patient does not respond to minimally invasive procedures, open surgical treatment is indicated. However, controversy exists about whether disc-preservation procedures, such as repositioning/repairing or disc removal, are the preferred treatment. This article evaluates the current evidence supporting both treatment options and highlights the indications, contraindications, and consequences of each.
- Costochondral Graft Versus Total Alloplastic Joint for Temporomandibular Joint Reconstruction** 335
 Louis G. Mercuri
- There are 2 options for the replacement of the temporomandibular joint for end-stage pathology: autogenous bone grafting or alloplastic joint replacement. This article presents evidence-based advantages and disadvantages for each of these management options to assist both surgeons and their patients in making that choice.
- Injectable Agents Versus Surgery for Recurrent Temporomandibular Joint Dislocation** 343
 Shravan Kumar Renapurkar and Daniel M. Laskin
- Recurrent temporomandibular joint dislocation (TMJD) is a distressing entity to the patient and a therapeutic challenge to the treating provider. Absence of high-level evidence in the literature among currently available treatment options creates a lack of consistency in management. This article reviews the current literature on common injectable agents used and the open surgical techniques. Based on the findings, an injectable agent is the initial treatment of choice for recurrent TMJD, with capsulorrhaphy and eminectomy being used in nonresponding patients.
- Combined or Staged Temporomandibular Joint and Orthognathic Surgery for Patients with Internal Derangement and Dentofacial Deformities** 351
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Patients with internal derangement of the temporomandibular joint and dentofacial deformities need appropriate evaluation for both conditions. Correct diagnosis of

internal derangement is vital in determining the correct orthognathic surgery plan, and it is particularly important to differentiate between myofascial dysfunction and intraarticular joint problems. Depending on the stage of internal derangement, patients may need treatment for temporomandibular dysfunction symptomatically, staged, or concurrently with orthognathic surgery.

Surgical Management of Idiopathic Condylar Resorption: Orthognathic Surgery Versus Temporomandibular Total Joint Replacement

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Radhika Chigurupati and Pushkar Mehra

Young women with retruded and hyperdivergent mandibles, class II open-bite malocclusions, and steep occlusal planes with or without temporomandibular joint symptoms are at higher risk for idiopathic condylar resorption (ICR). Such patients undergoing orthodontic and/or surgical treatment should be informed of possible relapse due to ICR. Orthognathic surgery with total joint replacement or orthognathic surgery alone may both be acceptable options for the management of the facial deformity and the malocclusion that ensues from ICR. Proper patient selection is key to achieving a successful outcome. Current trends and the evidence in the literature suggest that orthognathic surgery with alloplastic joint replacement may be the preferred approach.

The Role of Stress in the Etiology of Oral Parafunction and Myofascial Pain

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Richard Ohrbach and Ambra Michelotti

Oral parafunction during waking comprises possible behaviors that can be measured with a comprehensive checklist or behavioral monitoring. Multiple studies lead to largely consistent findings: stressful states can trigger parafunctional episodes that contribute to myofascial pain. However, this simple causal pathway coexists with at least 3 other pathways: anxiety and stress are potent direct contributors to pain, pain results in maladaptive behaviors such as parafunction, and parafunction may be a coping response to potential threat coupled with hypervigilance and somatosensory amplification. Awake parafunction remains an important risk factor for myofascial pain onset, and overuse models alone of causation are insufficient.