and MIO changes, and comparisons between the more successful and the least successful TMJ arthroscopic results were performed (*t* test). To determine if there were any significant predictive differences in the successful and unsuccessful groups, the following variables were compared: gender, age, arthroscopic findings, magnetic resonance imaging (MRI) findings, and MIO-pain changes.

**Results:** The mean postoperative follow-up period was 7.9 months. Comparison of the groups with respect to the combined MIO-pain change index demonstrated significant differences between the successful group (SG) (1.2338 + 0.5588) and the unsuccessful group (UG) (0.15010 + 0.3418) ($P < .000000003$), confirming the value of using a combined MIO-pain change index. Overall outcomes of TMJ arthroscopy revealed significant reductions in pain (preoperative VAS = 6.6 + 2.1; postoperative VAS 2.6 + 2.7; $P < .05$) and increases in MIO (preoperative 30.4 + 7.1 mm; postoperative 40.1 + 6.7 mm; $P < .05$). Systemic arthropathy was present in 14% (n = 14/102) and atypical pathology in 9% (9/102) patients. The SG included 88% (90/102) and the UG 12% (12/102) of the patients, based on MIO-pain changes. The SG was 87% females, with a female/male ratio of 6.5:1; and in the UG, 100% were females. Age differences between the SG (mean age 42 years) and UG (mean age 31 years) were significant ($P < .05$). There were no major differences in the SG compared to the UG with respect to arthroscopic findings; osteoarthritis (SG = 39%;UG = 50%), synovitis (SG = 94%;UG = 100%), adhesions (SG = 74%;UG 83%); and MRI diagnosed effusion (SG = 81%;UG = 83%) and disk displacement (SG = 80%;UG = 83%).

**Conclusion:** This study demonstrated similar successful outcomes following TMJ arthroscopy as previous reports. There were no major predictive differences between the SG and the UG, although the mean age of the SG was older than the UG. This study demonstrated that the outcomes of arthroscopy must consider the importance of establishing an accurate diagnosis (atypical intra-articular pathology and systemic disease), which can alter the course of treatment. Importantly, using an outcome measurement with equal influences of pain and MIO changes, may provide a more accurate depiction of the effects of surgery.

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## MANAGEMENT OF OBSTRUCTIVE SLEEP APNEA THROUGH A MULTIDISCIPLINARY SLEEP CLINIC.

*Christopher Ray, DDS, Robert A. Strauss, DDS, MD, FACS, and Ryan S. Nord, MD, Virginia Commonwealth University Health System*

**Purpose:** Obstructive sleep apnea (OSA) has become increasingly prevalent in recent years.[1] The burden of the condition on the individual as well as the collective health care system has been well characterized and is primarily evidenced in the contribution of OSA to cardiovascular, metabolic, and psychiatric disorders.[2] Management of OSA is often plagued by fragmentation of care among disarticulated individual providers, who may have expertise in certain aspects of the disease but often lack the comprehensive knowledge base necessary to adequately address all of its multifaceted intricacies.[3] Collaboration among providers has proven critical to coordination of relevant diagnostic and treatment modalities across the array of medical specialists.[4] The purpose of this study was to provide an example of how a multidisciplinary sleep clinic (MDSC) can optimize patient care by facilitating appropriate nonsurgical and surgical interventions through collaboration of relevant providers, namely, oral and maxillofacial surgeons, otolaryngologists, neurologists, and dentists.

**Methods:** This retrospective study reviewed the cases of 20 patients seen at the Virginia Commonwealth University Health System Multidisciplinary Sleep Clinic between April 2018 and April 2019. Patients were referred following diagnosis of OSA with intolerance to positive airway pressure management. Patients underwent baseline polysomnography and a variety diagnostic modalities. Based on the diagnostic workup, appropriate intervention was recommended for each patient. Recommendations included both nonsurgical management by the neurologist/dentist and surgical management by the oral and maxillofacial surgeon/otolaryngologist. Efficacy of the completed intervention was measured by using repeat polysomnography.

**Results:** Twenty patients were evaluated over 9 meetings during the year analyzed. Six completed diagnostic studies, were given management recommendations, and underwent their respective management modality with an average reduction of their Apnea Hypopnea Index (AHI) score from 34.5 to 14.4. Ten patients had pending surgical intervention, postintervention polysomnography/home sleep test, or continued diagnostic workup at the time of data query. Three patients had failed follow-up after surgical intervention was recommended. One patient withdrew from the study. Interventions completed and/or planned at the conclusion of the study included nonsurgical management (oral appliance therapy, modification to existing positive airway pressure device) and surgical management (septoplasty, turbinate reduction, adenoid ± lingual tonsil removal, uvulopalatopharyngoplasty, tongue base ± reduction, hypoglossal nerve stimulator implantation, hyoid suspension, and maxillomandibular advancement).

**Conclusion:** This retrospective study demonstrated that patient care can be facilitated through the collaboration of relevant providers in the management of OSA. All study patients who had completed the recommended interventions demonstrated successful reduction in AHI scores within 1 year of initial workup. Half of the population had ongoing workup, pending intervention, or incomplete repeat polysomnography at the conclusion of the study. This short duration and small patient population served as limitations. However, both limitations stem from the relatively short period in which the MDSC has been in operation at this institution. Within these limitations, the study provides a template upon which further research may be built. Future studies must be directed toward increased number of participants and length of follow-up, along with inclusion of subjective assessment of patient satisfaction with the collaborative approach and comparison of outcomes in patients undergoing management of OSA through individual providers versus providers within a collaborative setting.

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## OSTEOCHONDROMA OF THE MANDIBULAR CONDYLE: AN ALGORITHM FOR TREATMENT.

*Mark Gardner, DDS, and Shravan Renapurkar, DMD, FACS, Virginia Commonwealth University Health System*

**Purpose:** Osteochondroma (OC) or osteocartilaginous exostosis is considered to be the most common benign tumor of the axial skeleton; however, due to its endochondral origin, this pathology is rarely seen in the maxillofacial skeleton aside in the head of the mandibular condyle.[1,2] Condylar OCs can lead to various structural and functional disturbances which include facial asymmetries, malocclusion, prognathic deviation of chin, crossbite of the contralateral side, mouth opening disturbances, temporomandibular joint (TMJ) dysfunctions, and hearing loss, and pain in some cases.[2-8]

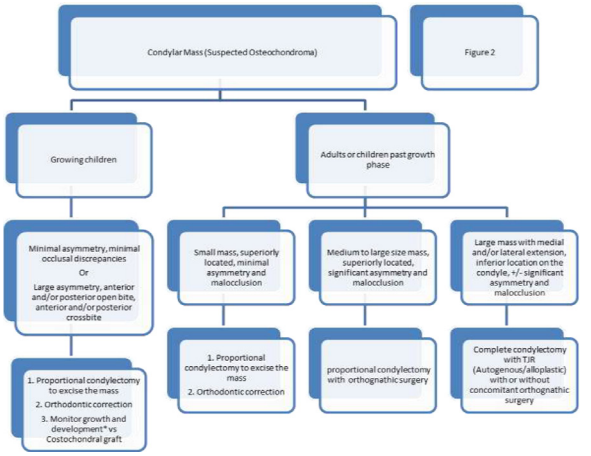
The types of surgical treatments for osteochondroma vary from resection without reconstruction (low-condylectomy), resection (total condylectomy) with TMJ reconstruction (autogenous/alloplastic), combined surgery, including orthognathic correction and low-condylectomy or TMJ reconstruction. Although previous studies have reviewed various modes of treatments and have supported the efficacy of each of them, none address the indications of such treatments in an algorithmic fashion. In this study, we reviewed a series of cases which were surgically treated and proposed a treatment algorithm based on initial presentation, age, location of the mass, morphology of the mass, and the degree of dentofacial deformity created.

**Methods:** We reviewed a total of 6 patients with a mean age of 33.6 years at the time of surgery. Three of those 6 patients presented as a pedunculated condylar mass located on the superior surface of the condyle, resulting in mild occlusal discrepancies and facial asymmetry. Two of these patients were treated successfully with proportional condylectomy and postoperative orthodontic correction of dental malocclusion with stable results. No orthognathic surgery was required until the last follow-up. The third patient elected not to undergo postoperative orthodontic correction of persistent malocclusion due to financial reasons but had no sign of recurrence with stable functional mild malocclusion. One of the 6 patients presented with superior located condylar mass, which was slightly larger in size, with significant cant of the maxilla and the mandible. This patient underwent a low condylectomy with simultaneous orthognathic surgery.

The final 2 patients presented with a significantly larger mass, with medial extension toward the cranial base. One of these patients had preoperative facial dysesthesia, presumed to be due to impingement on cranial nerve V. These patients were both treated with complete condylectomy and total joint replacement due to size of the mass, patient age, and medial extension and location of the mass on the condyle.

**Results:** All 6 patients who received treatment at Virginia Commonwealth University by the same surgeon from years 2015−2019 were found to show no sign of tumor recurrence at their most recent follow-up (mean follow-up length 10.8 months; range 3−30 months).

**Conclusions:** Based upon these surgical outcomes, we propose the algorithm shown in Figure 2, which can help guide practitioners in choosing the correct surgical procedure based upon preoperative clinical and radiographic findings.

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