

## Western University

### THE EFFECTIVENESS OF MAXILLO-MANDIBULAR ADVANCEMENT SURGERY FOR THE TREATMENT OF OBSTRUCTIVE SLEEP APNEA AT THE UNIVERSITY OF WESTERN ONTARIO

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**Background:** Obstructive sleep apnea (OSA) is a sleep related breathing disorder characterized by partial or complete blockages of the airway during sleep. Left untreated, OSA can lead to cardiovascular and cerebrovascular disease, fatigue-related accidents and neurocognitive deficits, with an increased mortality rate over time. Maxillo-mandibular advancement (MMA) is currently regarded as the most effective surgical technique for the treatment of OSA in adults. However, research in this area is limited and some still question the widespread suitability of MMA because of a perceived lack of data and the potential for increased morbidity.

**Purpose:** The primary aim of this study was to compare the clinical effectiveness of maxillomandibular advancement surgery for the treatment of severe OSA. Other variables that will be assessed include demographic, upper airway changes, and subjective patient self-assessment.

**Materials and Methods:** A retrospective cohort analysis of patients who underwent MMA surgery for the treatment of severe OSA at the University of Western Ontario between 2000 and 2013 was designed and implemented. Pre- and post-surgical polysomnograms, cephalometric radiographs, and patient questionnaires will be analyzed and statistical analysis will be performed to determine changes related to MMA surgery.

**Results and Conclusions:** Data are anticipated to be useful for clinicians to aid in selection of treatment alternatives and for patients to aid in achieving fully informed consent with regard to expected outcomes and risks of procedure.

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