

Surgical Treatment for Adult OSA

There are many surgical options for the treatment of OSA. The goal is to bypass the site of obstruction.

Uvulopalatopharyngoplasty (UPPP) is a common surgery. It consists of a reduction of the uvula and part of the soft palate. It decreases soft palate (retropalatal) obstruction but does not address tongue base obstruction. The success rate of UPPP alone is not high. Approximately 40-50% if surgical success is defined as 50% reduction in RDI and/or apnea index.⁷⁻¹⁰

Maxillomandibular advancement (MMA) is a procedure to open the airway in obstructive sleep apnea patients by moving both upper and lower jaws forward and addressing the airway obstruction behind the soft palate and tongue. It increases the retrolingual and retropalatal space (Figure 1). The region around the base of the tongue is the most increased space by MMA. MMA surgery helps sleep apnea patients breathe easier or take less effort to breathe.^{11,12}

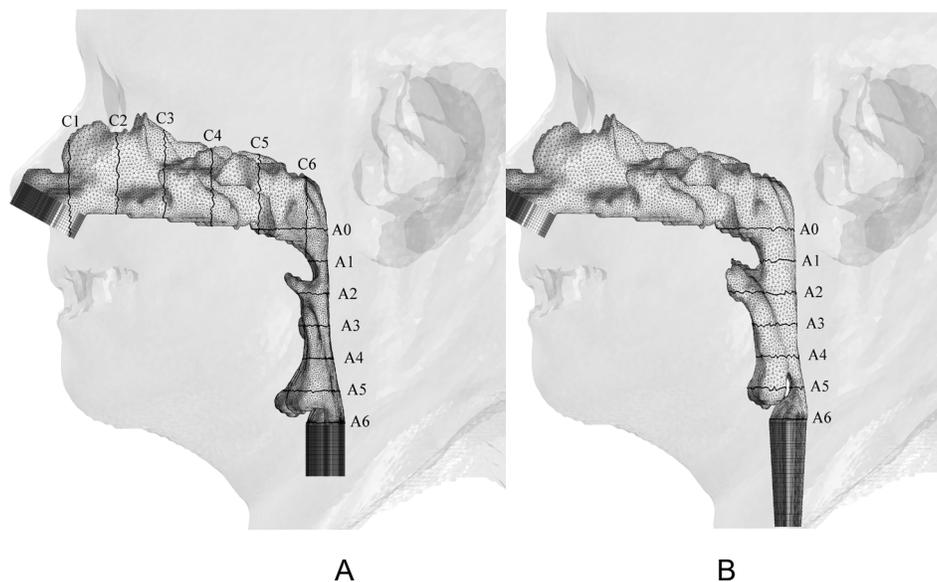


Figure 1: Comparing hybrid meshes of upper airway models in preoperative and postoperative MMA. Postoperative airway (B) at the retrolingual and retropalatal space is increased comparing with the preoperative one (A).

MMA is the most successful surgical procedure for OSA. It has been reported to be curative in 80% to 90% of patients.¹³⁻¹⁷ It is second to tracheostomy. However, tracheostomy potentially causes some issues of social acceptance, communication, and integration.^{18,19} Therefore, maxillomandibular advancement (MMA) is an alternative surgical option that is highly effective for treating patients with moderate and severe OSA.