

# SLEEP

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30<sup>th</sup> Anniversary  
Meeting of the  
Associated  
Professional Sleep  
Societies, LLC

## Scientific Highlights/Abstracts of Original Investigations

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**Results:** Of 56 enrolled patients, 25 completed the study protocol by December 2015, including baseline polysomnogram (PSG), fitting for a MAD, and follow-up with dental medicine. Of these, 72% (18/25) tolerated MAD, and underwent repeat PSG, whereas 28% (7/25) of participants discontinued MAD as they either felt the device was ineffective (n = 2, 8%), had side effects (n = 3, 12%) or preferred CPAP therapy (n = 2, 8%). Of those using MAD, 55% (n = 10) had an improvement in their oxygen desaturation index by at least 50% from pre-treatment ODI and to less than 10/hour and 83% (n = 15) reported improved sleepiness by the Epworth Sleepiness Scale. The average ESS in these 18 patients fell from 9.5 ± 5.8 pretreatment to 4.9 ± 3.9 with oral appliance use. PTSD was reported in 15/18 (83%) of the patients, and 8/15 (53%) reported improved symptoms of PTSD with oral appliance use.

**Conclusion:** Mandibular advancement devices may be better accepted by veterans that cannot tolerate PAP, and they may be effective in improving their sleep apnea, subjective sleepiness and symptoms of PTSD.

**Support (If Any):** ResMed for Narval Device and SomnoMed for SomnoDent Device.

### 0389

#### COST EFFECTIVENESS OF THE THORNTON CUSTOM MASK FOR COMBINATION THERAPY TREATMENT FOR OSA

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**Introduction:** The purpose of this study was to investigate the cost of the Thornton Custom Mask (CM) used in combination therapy to treat OSA in patients who presented to a dental sleep center. The longevity and cost of the CM over 5 years have yet to be determined.

**Methods:** The CM is a CPAP face mask that is fabricated from an impression of the face. This CM is then connected to the post attached to an oral appliance. This strapless CPAP face mask features a CPAP interface with mandibular stabilization. A retrospective chart review of 75 CM patients on combination therapy from 2006-2012 was conducted in 2015 to determine the current therapeutic disposition. All 75 patients were contacted by phone and interviewed.

**Results:** Current status (2015): Number (total 75 patients), Unable to contact 19 (56 remaining), Still wearing Custom mask 44 (78% of contacted patients), Back to stock CPAP 5 (10%), Lost weight/OSA resolved 3 (4%), Surgery/OSA resolved 2 (4%), Bad CPAP side effect 1 (2%), Deceased 1 (2%). Device: Stock mask\*, Initial \$: \$150, Annual \$: \$800 (mask/tubing), 5 yr cost: \$4150. Device: CM, Initial \$: \$3600, Annual \$: \$80.00 (tubing), 5 yr cost: \$3650. \*AirFit™ F10 Full Face Mask.

**Conclusion:** The longevity of this device makes the initial cost of the device comparable to stock CPAP mask when considered how long this mask lasts. The actual life span of these masks have yet to be determined since they are still functioning after 9 years in some of these patients. Not only is a CM effective in the long term in combination therapy, especially those on the severe end of the spectrum, but is also cost effective. The CM should continue to be considered when other therapeutic methods of treating OSA have failed or when CPAP pressures or the CPAP mask are intolerable to the patient.

### 0390

#### VERIFICATION OF SELF-MOLDABLE MANDIBULAR REPOSITIONING APPLIANCES EFFICIENCY IN ELDERLY PATIENTS, MAXILLARY COMPLETE DENTURES USERS, IN TREATMENT OF OBSTRUCTIVE SLEEP APNEA SYNDROME. A PILOT PROJECT

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**Introduction:** Intraoral devices already have their space in the treatment of OSA. These devices act in the upper airway by repositioning the structures adjacent to the collapse region - namely the soft palate, the base of the tongue and the posterior wall pharynx - in order to increase the light thereof. These devices are removable, modelled individually according to the anatomical and physiological conditions of the patient, and are used exclusively for sleeping. The application of these devices in patients with full dentures often creates difficulties, specifically in the adaptation of the metal clasps, which may cause wear, scratches, and even fractures on the acrylic prosthesis. The rise in the market of self-moldable thermoplastic devices dates back to 20 years ago, and today we find some devices with a high degree of technical sophistication.

**Methods:** The intention is to conduct a pilot project to see if the application of pre-assembled, thermoplastic, resilient appliances, without any metal clasps, and that are self-moldable on dentures, can be a solution to the treatment of OSA, especially in elderly patients. Additionally, the pilot will test if the use of the ApneaLink Plus device for domestic polygraphies is feasible for the same type of patient. Patients: The chosen participants were four elderly patients, upper denture users, with a suspected diagnosis of OSAS. Appliances: pre-assembled, thermoplastic, self-molding, adjustable devices, called APNEA RX (Manufactured by Apnea Sciences Corporation, California / USA and distributed in Brazil by Lumiar Health Builders Hospital Equipment LTD. Domestic Polygraphies: the polygraphies were performed with the usage of ApneaLink Plus (Manufactured by ResMed Germany Inc and distributed in Brazil by Lumiar Health Builders Hospital Equipment LTD. Sessions were held before and after applying the intra-oral device (3 weeks apart).

**Results:** Apnea/Hypopnoea Index avg reduced from 9 to 6 e/h; min sat O2 avg increase from 79% to 82% and Epworth Sleepiness Scale avg reduced from 15 points to 9.

**Conclusion:** There was improvement in all evaluated items and, according to the accounts of patients, snoring was eliminated. Patients demonstrated ability to handle the devices (ApneaLink Plus and APNEA RX), with the latter having adapted particularly well to removable prostheses. In view of these observations we conclude that intraoral, self-moldable devices can be an effective alternative to elderly patients with removable prostheses. Nonetheless, conducting a study with a larger population would be important to consolidate these observations.

### 0391

#### OUTCOMES OF ORAL APPLIANCE THERAPY FROM TWO DENTAL SLEEP MEDICINE PRACTICES

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**Introduction:** The 2015 Clinical Practice Guideline (CPG) on oral appliance therapy (OAT) urges sleep clinicians to take patient preference into consideration when prescribing treatment for obstructive