

Conservative Treatment for Snoring -Sleep Apnea and
Breathing Related Sleep Disorders
General, Family and Cosmetic Dentistry

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SnoreSolutions

Breathing Related Sleep Disorders

The Latest News on Airway Orthotic Therapy

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Predictive Value of Pharyngometry Derived Measurements for Oral Appliance Treatment of Obstructive Sleep Apnea Syndrome

In an effort to study the predictive value of Acoustic Pharyngometry in the treatment of OSA, Dr Daniel Loube conducted a study involving Twenty five OSAS patients, a semi-adjustable mandibular advancement device and both pre- and post-treatment polysomnography. Dr Loube conducted an Acoustic Pharyngometry exam while the patient was awake and supine both with and without the oral appliance. An analysis of the airway measurements was conducted and predictive values were calculated for changes in the AHI.

Dr Loube found that an increase in airway volume had a positive predictive value 95% and negative predictive value 60% to distinguish responders from non-responders. He went on to conclude that "Airway volume determined by acoustic Pharyngometry may be a useful measure to predict OA treatment response and could minimize the need for post-treatment PSG."

In an effort to improve the quality of our consultation with our OSA patients, we have decided to introduce Eccovision to our office protocol. Eccovision is an acoustic imaging device, which

uses sonar technology to acoustically map the upper airway. This device is identical to the one studied by Dr Loube.

We are using this technology to establish anatomical landmarks and cross sectional airway from the oral cavity to the hypopharynx. This information helps to establish the narrowest point in the airway. Bite jigs are then used to demonstrate the effect of mandibular position on airway volume. Once the optimal mandibular location is established, this data is recorded as appliance construction parameters. From a dental perspective this information is valuable in establishing Oral Appliance candidacy and in developing a titration schedule and treatment plan for the patient.

The acoustic Pharyngometry section of our consultation takes just several minutes and provides us with very valuable information, facilitating patient selection, appliance design and titration schedule.



Acoustic Pharyngometry

SnoreSolutions Hi-lights

- Acoustic Pharyngometry 95% predictive of non-responders for Oral Appliance Therapy
- Sleep Disorders Dental Society changes it's name.
- New Predictors for Airway Orthotic Success
- OPAP—A New Approach to the Management of Obstructive Sleep Apnea

News Flash!

In an effort to more accurately reflect its mission as a professional society, the "Sleep Disorders Dental Society" recently changed it's name to:

**"THE ACADEMY OF
DENTAL SLEEP
MEDICINE"**

Along with the name change, they have published an all new Website which contains both public and professional portions. This website is a tremendous resource centre for the role Oral Appliances play in the treatment of Breathing Related Sleep Disorders.

OPAP—A New Approach to the Management of OSA

This FDA certified therapy combines an Oral Appliance with Positive Airway Pressure. OPAP is a custom moulded mandibular advancement appliance that has an airway lumen and exhaust port for application of positive airway pressure. Indicated for use with both CPAP and Bilevel systems, it is believed that this therapeutic approach may be appropriate for those individuals demonstrating a genuine intolerance to traditional nCPAP and are not candidates for Oral Appliance Therapy as a sole treatment modality.

Patients who are retrognathic, overclosed, have large tongues, constricted dental arches and who have impaired upper airways are considered to be candidates.

The risks associated with use of the OPAP device appear to be no different than those associated with oral appliance therapy.

Protocol for delivery and titration of OPAP is similar to that of traditional nCPAP except that a Dentist fabricates, fits and delivers the OPAP device prior to titration of the positive airway pressure by the Physician.

This new treatment modality has the potential to help many individuals currently inhabiting the world between intolerance to nCPAP and inadequate treatment with Oral Appliances alone.



Described as an "Intra-Oral Mask" the current version of OPAP does not allow for multiple advancement settings, although an adjustable version is currently being developed.

Predictors of Oral Appliance Success for the Treatment of OSA

Dr. Alan Lowe has recently published a number of studies regarding this subject. He shared his findings at the APSS meeting last month.

Dr. Lowe's research indicated that OSA patients with no change in body-mass index (BMI) during treatment had a significant change in Apnea-Hypopnea Index (AHI), whereas OSA patients with a 5% or greater increase in BMI had no significant reduction in their AHI.

In another study, Dr. Lowe found a superior Oral Appliance treatment response in patients with the following characteristics: younger, lower BMI, more forward maxillae, smaller oropharynx, smaller overjet, less erupted maxillary molars and a longer pharynx and or smaller soft palate.

These criteria should be added to the factors considered in the determination of Oral Appliance Candidacy.

Dr. John S. Viviano obtained his B.Sc. and D.D.S from U of T and has practiced General Dentistry in Mississauga since 1985. He maintains a special interest in the treatment of Snoring, Sleep Apnea, and Breathing Related Sleep Disorders. He is a member of the American Academy of Sleep Medicine and Sleep Wake Disorders Canada. He is both a member of and credentialed by the certifying board of the Academy of Dental Sleep Medicine and he is also a member of and has lectured on behalf of the Canadian and Ontario Dental Associations and other organizations regarding the treatment of Snoring, Sleep Apnea and Patient Management Strategies. Dr. Viviano utilizes various appliance designs including trial appliances in his conservative treatment of Snoring, Sleep Apnea, and Breathing Related Sleep Disorders.

Patients are best served by collectively working to provide the most effective, best tolerated therapy available

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