

# SnoreSolutions

**Breathing Related Sleep Disorders**  
**The Latest News on Airway Orthotic Therapy**  
**Dr. John S. Viviano SnoreSolutions@aol.com**  
**SnoreSolutions.com**



## Airway Orthotics—The Evolution of a Name

**Airway Orthotics.** What are they, where did the name originate and what does it mean?

First, there was the name, **Dental Appliance**; since these appliances are fabricated by a Dentist, this name seemed appropriate. However, the common consensus was, how can a Dental Appliance treat a Sleep Problem?

Then came the name, **Oral Appliance**; this eliminated the misleading Dental term; however, it still did little to explain the function of the appliance.

Next in the evolutionary chain was the name, **Airway Dilator**; this name was introduced with much excitement. Finally, a name that accurately described the function of the appliance. But even this name fell short.

To accurately describe the function of these appliances, we must first agree on what this function is. Dilation of the airway is undoubtedly one of their functions, this has been demonstrated with MRI's in the literature. However, to be successful, they must also fulfill another function, that of airway splinting. The name Airway Dilator provides no indication that it works by splinting the airway thus preventing it from collapsing.

Although the mechanism by which these appliances work clearly involves both dilation and splinting of the airway. We still do not know what other mechanisms may underlie successful therapy with an appliance. Clearly then, the best name should not be tied to a particular mechanism.

If we put aside specific mechanisms, these appliances work by making a pathological airway behave like a healthy airway. Thus the name **Airway Orthotic**. This name is not tied to a particular mechanism that may only partially describe how the appliance works, but rather, it concisely describes exactly what the appliance does; It makes the airway behave "Ortho" or correctly.

Through the use of Acoustic Pharyngometry, we can assess exactly how an airway behaves in the awake patient.

The most current thinking in this area,

involves determining if manipulating mandibular posture with an Airway Orthotic can make a pathological airway behave like a healthy airway, and how success in the awake state relates to successful Orthotic therapy in the sleep state. Research in this area has demonstrated a link between behavior of the awake orthotic manipulated airway and ultimate orthotic success. Currently, we are continuing to conduct research to further validate this relationship.

**Airway Orthotic** most accurately represents what these appliances actually do. No matter what we learn about the mechanism by which they work, they will most certainly still be making the airway behave "Ortho".



## Airway Orthotics Helping You Breathe

### SnoreSolutions Hi-lights

- Airway Orthotics, a new paradigm
- Medico-legal responsibility to our patients
- Sleep Medicine today
- Habitually sleepy drivers have a high frequency of automobile crashes

### News Flash!

**Habitually sleepy drivers have a high frequency of automobile crashes associated with respiratory disorders during sleep.**

*(Am J Respir Crit Care Med 2000;162(4 Pt 1):1407-12.)*

**An interview of 4, 002 randomly selected drivers, found that 3.6 % were habitually sleepy while driving.**

**This subset of drivers also reported a significantly higher frequency of auto crashes and had a significantly higher prevalence of respiratory sleep disorders than control subjects.**

## Patient Compliance to Therapy and Medico-Legal Responsibility

Patient Bob presents with a chief complaint of snoring and restless sleep but no subjective daytime somnolence. A sleep study verifies an RDI of 20, with minor blood oxygen desaturation. Following the advice of his Sleep Specialist, he participates in a successful CPAP trial sleep study and reluctantly takes a CPAP unit home. After 2 weeks of struggling with the unit, he puts it in the closet and sleeps in the guest bedroom so as not to disturb his wife with his untreated snoring. Although he claimed no daytime somnolence, one month after taking his CPAP unit home he is involved in an automobile collision leaving him in therapy and unable to work for 3 years.

In court, his lawyer asks the Sleep Specialist a series of questions; "What is the compliance rate for CPAP therapy, for patients exhibiting the severity of disease my client presented with? Are there any alternative therapies for this disease? What are the success and

compliance rates for these alternatives? Were these alternatives adequately discussed with my client?"

Clearly, someone needs to take responsibility for this patient's financial needs. Should it be the patient? Should it be the Sleep Specialist? Should it be the CPAP manufacturer? This year in Ontario, an employee that had too much to drink at a company Christmas party successfully sued her employer for damages when she was in an automobile accident, even though the employer offered to call her husband or a cab. Apparently, the employer did not do enough to prevent the accident. Unfortunately, one can't tell what "enough" is until the Judge tells



We live in the information age. Patients expect to know all their alternatives.

## Sleep Medicine Today

It has been estimated that one million individuals in Ontario currently suffer from a breathing related sleep disorder involving some level of apnea. If they all came forward, it would take over 10 years to assess the severity of their problem with a full night sleep study, and an equal length of time to conduct a CPAP trial. After some discussion of lifestyle changes, these patients would typically be offered CPAP as first line treatment. Six months later, less than 60 % of them would remain compliant with this prescribed treatment, leaving over 400,000 untreated for their potentially debilitating disease. Clearly, a more efficient way to screen, diagnose, educate and triage patients to treatment alternatives they will comply with is needed.

Health caregivers for these patients can best serve them by collaborating and developing a true multi-disciplinary approach; one that utilizes efficient screening processes, effectively provides information regarding lifestyle changes that improves the severity of their disease, and guides the patients towards "patient specific therapy alternatives" that have proven effectiveness and favourable compliance rates based on the most current research available.

*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.

Working together,  
to benefit the  
patients we have  
been entrusted to  
serve.

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

Michael Angelo's Market Place  
1-4099 Erin Mills Parkway  
Mississauga, Ontario, L5L 3P9

Phone: 905-820-3200  
Fax: 905-820-9346  
email: [SnoreSolutions@aol.com](mailto:SnoreSolutions@aol.com)  
Web Site: [SnoreSolutions.com](http://SnoreSolutions.com)