

## Tailoring the Oral Appliance to the OSA Patient

By

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Dentists who have working experience with many oral appliances have observed that some not only work differently than others but differently on different patients, who, of course, vary in both their anatomy and temperament. I addressed this in my book chapter Oral Devices for the Management of Snoring and Obstructive Sleep Apnea (OSA) in the 1994 (second edition) Snoring and Obstructive Sleep Apnea, I expressed an early concern of dentists involved in formation of the Sleep Disorders Dental Society, later to become the American Academy of Dental Sleep Medicine.

At that time and now, published studies suggested two types of oral appliances effectively treat snoring and OSA Tongue Retaining Devices (TRD) and anterior Mandibular Retaining Devices (MRD). The TRD is made of a soft flexible vinyl type bulb holding the tongue (by its front ½ portion) forward between the front teeth as one may stick their tongue out at somebody, forward but unstrained. This impacts more of the upper back of the throat. The MRD is usually made of a more rigid material fitting on the teeth of one, but usually both jaws either pulling or pushing the lower jaw forward and the tongue from below and behind its tip forward. This impacts more of the lower back of the throat.

Both TRD and MRD vary in their design, which includes the material from which they are made, how they are held in place, what type of force is required to accomplish this and with the MRD:

- Positioning potential in how easily the jaws can and do move,
- how easily can jaw position be modified in three dimensions (back and forth, side to side and up and down),
- Who (patient or dentist) may or must account for, help determine and actually change the jaw position
- If it must be anchored firmly to the teeth, how is it anchored and how well does it remain anchored well, if it loosens can it be re-tightened, can this place stress on the teeth?
- How fragile is it and how easily can it be repaired, if it cracks or breaks, or be modified, if some dental work that alters the shape of the teeth is required? How costly is this?
- How easily is it kept clean and does the material degrade over time?
- Does the design impede or favor the position of the tongue within the mouth, provide enough room for allowing modification to improve this?

Matching the design characteristics of a particular appliance to the anatomy, functional movement and temperament of each patient is best determined through careful examination and analysis of them including a trial run of testing appliances through "Trial Procedures". I discuss this in my September 2009 Your Health magazine article, Trial Procedures in Oral Appliance Therapy, that can be found in the magazine archives, as it best helps tailor the appliance to the OSA patient.