

Managing Obstructive Sleep Apnea Customized Oral Appliance Therapy

By
Arthur M. Strauss, DDS

I define treatment success in the management of obstructive sleep apnea (OSA) through oral appliance therapy (OAT) as requiring minimal intervention, resulting in maximal compliance with maximal positive impact and minimal side effects.

Anatomically, there are variations among individuals

- jaws,
- tongue,
- throat, and
- other directly/indirectly associated structures.

Patient's symptoms, habits and temperaments both impact and are impacted by this anatomic relationship that leads to OSA and related conditions.

Treatment, or even the treatment approach, must be customized to meet patient's unique needs, in order to be most effective. This involves choosing and often customizing an appliance from the close to 150 OSA oral appliances that addresses the patient's current dental condition, medical condition, and even mental attitude.

Numerous variations in oral appliances include:

- How they fit on or anchor to the teeth
- How they move the jaw (back & forth, up & down, side-to-side)
- What material are they made of (soft, hard, medium, combination)
- How the material can be modified to a dental change
- How their fit can be modified
- How your jaw position is modified
- If the OA can be repaired or modified
- How they impact tongue space
- How likely they are to move individual teeth

Impact concerns include:

- How easily the jaws can and do move
- How easily can jaw position be modified (back and forth, side to side and up and down)
- Who (patient or dentist) may or must account for monitoring any change in the jaw position
- How well it remains anchored to the teeth. If it loosens can it be re-tightened? Can this place stress on the teeth?
- 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?
- How 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 requires careful, ongoing examination and analysis within a collaborative relationship.