

RH Dentistry Implements Custom Mandibular Advancement Protocols for Obstructive Sleep Apnea in Houston

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RH Dentistry has officially announced the implementation of an updated dental sleep medicine protocol at its Houston facility, incorporating high-precision 3D intraoral digital optical scanning and custom mandibular advancement therapy. Available as of fall 2026, the clinical framework expands regional access to non-invasive sleep apnea treatment in Houston, enabling local residents diagnosed with mild-to-moderate obstructive sleep apnea or Continuous Positive Airway Pressure (CPAP) intolerance to undergo comprehensive upper airway evaluations and custom oral appliance fitting.

Under the direction of Dr. Robert Hicks, the clinical team implemented these updated diagnostic and therapeutic protocols to address obstructive sleep apnea (OSA), a progressive physiological sleep disorder characterized by repeated collapse of the upper pharyngeal airway during sleep. Apneic and hypopneic events cause transient cessation of airflow, leading to acute nocturnal hypoxemia, recurrent micro-arousals, sleep fragmentation, and elevated sympathetic nervous system activity. Left unmanaged, chronic obstructive sleep apnea significantly increases long-term systemic health risks, including refractory hypertension, cardiac arrhythmias, coronary artery disease, stroke, metabolic dysfunction, and severe daytime hypersomnolence.

According to clinical practice parameters published jointly by the American Academy of Sleep Medicine (AASM) and the American Academy of Dental Sleep Medicine (AADSM), custom-fabricated mandibular advancement devices (MADs) are indicated as a primary first-line therapy for adults with mild-to-moderate OSA, as well as a secondary alternative for patients with severe OSA who are non-compliant with CPAP therapy. Mandibular advancement devices function by mechanically repositioning and stabilizing the mandible in a forward position during sleep, which draws the hyoid bone and tongue base forward while tightening the lateral pharyngeal walls. This physiological advancement increases the cross-sectional volumetric area of the upper airway, mitigating tissue collapse and maintaining continuous airway patency throughout the sleep cycle.

The integration of 3D digital intraoral optical scanning technology enables the clinical team to capture precise three-dimensional topographies of the dental arches without the physical distortion associated with traditional impression materials. Working in close collaboration with board-certified sleep physicians, clinicians utilize specialized bite registration tools to establish an optimal therapeutic advancement position, balancing airway expansion against temporomandibular joint tolerance. Precision custom laboratory fabrication ensures that the appliance provides even force distribution across the dental arches, minimizing the risk of secondary dental movement or occlusal shifts over extended clinical use.

Comprehensive diagnostic screening and ongoing interdisciplinary management serve as crucial elements of the practice's sleep medicine protocol. Prior to device fabrication, patients undergo objective diagnostic sleep testing such as an overnight home sleep apnea test (HSAT) or laboratory polysomnography interpreted by a sleep physician to establish an initial Apnea-Hypopnea Index (AHI) baseline and oxygen desaturation parameters. Following appliance delivery and incremental titrations, follow-up sleep evaluations are conducted to verify objective reduction in apneic events and verify treatment efficacy.

The practice has also established a structured patient education initiative designed to inform individuals about the physiological mechanisms, long-term health risks, and home care protocols associated with dental sleep therapy. Consultations focus on setting realistic clinical timelines, explaining the necessity of maintaining strict morning jaw alignment exercises to prevent permanent bite shifts, and outlining proper appliance sanitation procedures to prevent bacterial or fungal buildup on device surfaces.

Furthermore, this educational framework equips patients with specific monitoring guidelines to track treatment efficacy and identify potential transient side effects, such as morning tooth tenderness, excessive salivation, or mild temporomandibular joint discomfort. Clinicians emphasize the importance of regular bi-annual follow-up examinations to inspect appliance structural integrity, verify soft-tissue health, and assess jaw joint mechanics. By combining physician-led diagnosis with customized dental appliance design and long-term clinical surveillance, the practice aims to deliver therapeutic solutions tailored to individual upper airway anatomy. Individuals seeking diagnostic evaluations, CPAP alternative assessments, or structured management plans for sleep apnea treatment in Houston can access direct telephone scheduling and educational clinical resources through RH Dentistry's official office in Texas.

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For more information about RH Dentistry of Memorial, contact the company here: RH Dentistry of Memorial (281) 661-1844 info@rhdentistryom.com

RH Dentistry of Memorial

Website: <https://www.rhdentistryom.com/>

Email: info@rhdentistryom.com

Phone: (281) 661-1844