



# Mandibular Advancement Devices For Obstructive Sleep Apnea

## Evidence Based Medicine

**James M. Lipton DDS**

*Experience that Matters*

Diplomate, American Board of Dental Sleep Medicine since 2008

# What is Obstructive Sleep Apnea (OSA)

**Sleep apnea is an involuntary cessation of breathing due to obstruction of the airway unknown to the patient causing oxygen desaturation to the vital organs of the body. Patients with sleep apnea can stop breathing as much as one hundred times an hour, often for a minute or longer.** This makes sleep apnea a serious medical condition that leads to major health problems if not treated properly. It is important to recognize the symptoms and risks associated with sleep apnea.

## **Common symptoms of sleep apnea include:**

- Wake up choking or gasping for air
- Snore loudly
- Awake suddenly from sleep
- Awake in a sweat
- Excessive daytime sleepiness
- Poor concentration
- Morning headaches
- Depressed mood
- Night sweats
- Weight gain
- Feel fatigued and lethargic after sleeping all night
- Impaired memory
- Sexual dysfunction
- Frequent nocturnal urination
- Poor job performance
- Low sex drive

## **Long-term risks of sleep apnea include:**

- High blood pressure
- Heart disease
- Stroke
- Diabetes
- Depression
- Obesity
- Cognitive impairment

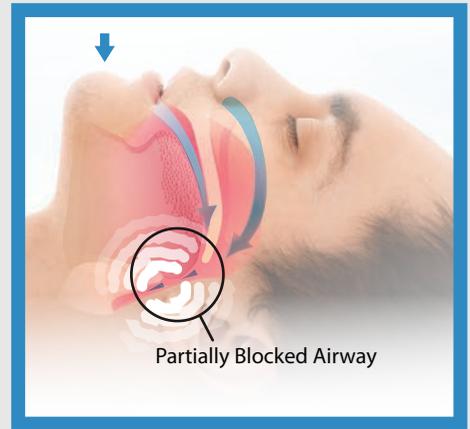
# Mandibular Advancement Device (MAD)

The MAD is designed to reposition the jaw slightly forward to stabilize the mandible, tongue, hyoid bone and sometimes the soft palate. It increases the size of the airway in a lateral dimension and protects against the negative effects of teeth grinding caused by sleep breathing issues. This oral appliance is convenient, comfortable, and effective.

- Custom-made and adjustable to maximize efficacy and minimize joint soreness
- Small and comfortable
- Easily portable for traveling
- Improves breathing and oxygen delivered to vital organs during sleep
- Protects from clenching and grinding of teeth
- Clinically proven for effectiveness
- FDA approved

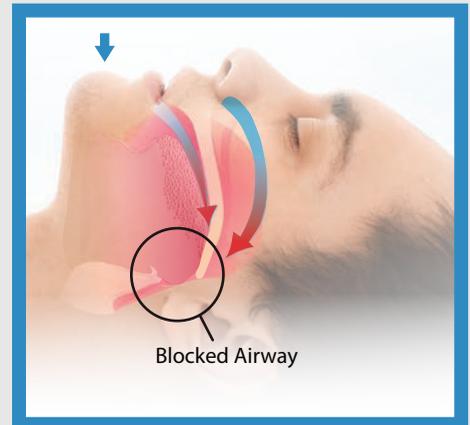


## Snoring



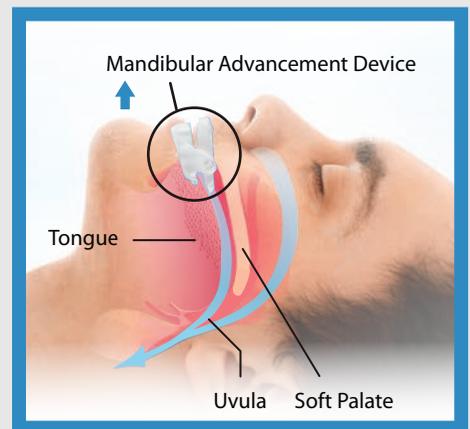
Partially Blocked Airway

## Sleep Apnea



Blocked Airway

## The Solution



Open Airway

# When to get a Mandibular Advancement Device vs. CPAP

**Custom made MADs can be the first line of treatment** for mild and moderate obstructive sleep apnea patients who:

- Prefer MAD over CPAP treatment
- Fail behavioral treatment measures and/or positional therapy
- Are inappropriate candidates for CPAP treatment

**MADs are the second line of treatment** for severe OSA after CPAP trial. MADs are an alternative to CPAP for severe obstructive sleep apnea patients who are non-compliant to CPAP or CPAP intolerant.

The American Academy of Sleep Medicine (AASM) and the American Board of Dental Sleep Medicine (ABDSM) recommend that sleep physicians consider prescription of oral appliances, rather than no treatment, for adult patients with obstructive sleep apnea who are intolerant of CPAP therapy or prefer alternate therapy. [1]

“An oral appliance (OA) is prescribed by the physician to treat Sleep-Related Breathing Disorders. The OA may be a first-line therapy or may be used when previous treatment efforts have fallen short of maximum efficacy. Several studies have demonstrated that OAs and PAP (positive airway pressure) therapy were comparable in improving daytime somnolence, hypertension, neurocognitive function, quality-of-life indices, and cardiovascular mortality.” [2]

When oral appliance therapy is prescribed by a sleep physician for an adult patient with obstructive sleep apnea, the ABDSM suggests a qualified dentist use a custom, titratable appliance over non-custom oral devices.

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[1] Ramar, Kannan, et al. "Clinical Practice Guideline for the Treatment of Obstructive Sleep Apnea and Snoring with Oral Appliance Therapy: An Update for 2015." *Journal of Clinical Sleep Medicine*. Vol. 11, No. 7, 2015. Pages 773-827.

[2] Levine, Mitchell, et al. "Dental Sleep Medicine Standards for Screening, Treating, and Managing Adults with Sleep-Related Breathing Disorders." *Journal of Dental Sleep Medicine*, vol. 5, no. 3, 2018, pp. 61-68., doi:10.15331/jdsm.7030.  
[https://www.aadsm.org/docs/Levine\\_Article\\_Final.pdf](https://www.aadsm.org/docs/Levine_Article_Final.pdf)

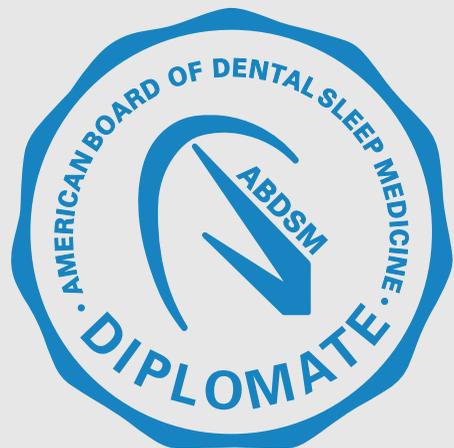
# Why Patients and Doctors Choose Our Practice

**Dr. Lipton lives up to his reputation of being a dentist trusted by the community to deliver high-quality treatment. Because of his extensive training in the sleep apnea field, Dr. Lipton has developed an excellent understanding of the techniques and skills required to deliver life-changing results. He is the most experienced and the number one choice for your care.** If you're looking for a dentist that treats you right from the first visit, a team that genuinely cares, and a warm environment in which you can feel comfortable and at ease, then you're in the right hands.

## Experience is Everything

- Diplomate, American Board of Dental Sleep Medicine since 2008
- **Has been practicing Dental Sleep Medicine since 2007.**
- We are the trusted provider of Oral Appliance Therapy for Physicians, Sleep Labs, and Local and Chicago Hospitals.
- Hundreds of hours of continuing education in Dental Sleep Medicine since 2008.

The American Board of Dental Sleep Medicine (ABDSM) believes higher standards for dental sleep medicine translate into better care for patients and greater accountability. The ABDSM credential is widely recognized as the gold standard for excellence in Dental Sleep Medicine. Physicians value board certification and accreditation as a demonstration to their peers and the public that they have the clinical judgment, skills and attitudes essential for the delivery of excellent patient care.



# Why a Mandibular Advancement Device?

**Hundreds of clinical studies substantiate the effectiveness of custom-made Mandibular Advancement Devices effectively treating snoring and reducing daytime sleepiness, fatigue, and other symptoms of OSA.**

Below are a sample of scientific studies that show the positive effects when using oral appliance therapy for obstructive sleep apnea.

## *Oral Appliance Therapy Reduces Blood Pressure in Obstructive Sleep Apnea: a Randomized, Controlled Trial*

When studying the effects of oral appliance therapy on blood pressure it was concluded that “oral appliance therapy for obstructive sleep apnea over 4 weeks results in a reduction in blood pressure, similar to that reported with continuous positive airway pressure therapy.” [3]

## *Therapeutic Outcomes of Mandibular Advancement Devices as an Initial Treatment Modality for Obstructive Sleep Apnea*

These results suggest that the use of a MAD may be an alternative treatment option in OSA patients with retropalatal and retroglossal area narrowing regardless of disease severity. Additionally, MADs can be recommended as an initial treatment modality, and the effectiveness of MADs in achieving success may not be inferior to CPAP. [4]

## *An Update on Mandibular Advancement Devices for the Treatment of Obstructive Sleep Apnoea Hypopnoea Syndrome*

In recent years more evidence has emerged of the effectiveness of MAD therapy across the range of OSAHS severity. In milder disease, the data support MAD use as they are beneficial and cost-effective. In more severe cases, MAD should be considered for those who decline or cannot tolerate CPAP. [5]

## ***Clinical Practice Guideline for the Treatment of Obstructive Sleep Apnea and Snoring with Oral Appliance Therapy: An Update for 2015***

We recommend that sleep physicians consider prescription of oral appliances ... for adult patients with obstructive sleep apnea who are intolerant of CPAP therapy or prefer alternate therapy. (STANDARD) .

We recommend that sleep physicians prescribe oral appliances ... for adult patients who request treatment of primary snoring (without obstructive sleep apnea). (STANDARD) [6]

## ***Oral Appliance Versus Continuous Positive Airway Pressure in Obstructive Sleep Apnea Syndrome: A 2-Year Follow-up***

Oral appliance therapy should be considered as a viable treatment alternative to continuous positive airway pressure (CPAP) in patients with mild to moderate obstructive sleep apnea syndrome (OSAS). In patients with severe OSAS, CPAP remains the treatment of first choice. [7]



[3] Helen Gotsopoulos, BDS, MPH (Hons) John J. Kelly, MD, PhD Peter A. Cistulli, MD, PhD  
*Sleep*, Volume 27, Issue 5, 1 August 2004, Pages 934–941,  
<https://doi.org/10.1093/sleep/27.5.934>

[4] Park, Pona, et al. "Therapeutic Outcomes of Mandibular Advancement Devices as an Initial Treatment Modality for Obstructive Sleep Apnea." *Medicine*, Wolters Kluwer Health, Nov. 2016,  
[www.ncbi.nlm.nih.gov/pmc/articles/PMC5120906/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC5120906/)

[5] Basyuni, Shadi, et al. "An Update on Mandibular Advancement Devices for the Treatment of Obstructive Sleep Apnoea Hypopnoea Syndrome." *Journal of Thoracic Disease*,  
[jtd.amegroups.com/article/view/17794](http://jtd.amegroups.com/article/view/17794).

[6] Ramar, Kannan, et al. "Clinical Practice Guideline for the Treatment of Obstructive Sleep Apnea and Snoring with Oral Appliance Therapy: An Update for 2015." *Journal of Clinical Sleep Medicine*. Vol. 11, No. 7, 2015. Pages 773-827.

[7] Doff, Michiel H J, et al. "Oral Appliance versus Continuous Positive Airway Pressure in Obstructive Sleep Apnea Syndrome: a 2-Year Follow-Up." *Sleep*, Associated Professional Sleep Societies, LLC, 1 Sept. 2013, [www.ncbi.nlm.nih.gov/pmc/articles/PMC3738037/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3738037/).

# Before we schedule you for a comprehensive exam

Dr. Lipton will conduct a preliminary review of the following records that we will obtain on your behalf.

- A sleep questionnaire that we request you fill out which provides us with your sleep and medical history
- Your diagnostic sleep study report
- Dental x-rays (acquired from your dentist)
- A referral and statement of medical necessity from your M.D.

When you come to Dr. Lipton for a Mandibular Advancement Device (MAD), your initial appointment will consist of a detailed history and physical examination of the oral-pharynx, nasal-pharynx, and dentition. Only after this evaluation will Dr. Lipton determine whether you are a possible candidate for therapy. Based on that determination, treatment is then planned accordingly.

There are a multitude of factors considered to determine the appropriate MAD to be fabricated, including but not limited to: sleep position, dexterity, oral anatomy and type of airway obstruction, and parafunctional habits. Additionally, precise measurements of the vertical and horizontal components of the maxillomandibular relationship are taken digitally to ensure that once the device is fabricated and placed, you will be able to measure and adjust your device to satisfaction in the shortest period possible.

# During Oral Appliance Therapy

**When you initially receive your MAD it is the beginning of the oral appliance therapy process.** You will then see and consult with Dr. Lipton who will make customized adjustments every 3 weeks to gradually obtain the desired results and maximize patient comfort and adherence. When you get to the point that you are feeling better and exhibiting more energy, you will likely have a titration sleep study where the MAD will be “tweaked” for absolute objective success. Dr. Lipton will then discuss the results of the titration sleep study with you and a six-month follow up visit will be scheduled to monitor the comfort, adherence and efficacy of the device. After the first six-month follow-up visit, you will see Dr. Lipton yearly (or before if necessary) for follow up.

## **Your care will include:**

- Evaluation of your sleep study, dental x-rays, medical history and registration materials
- Clinical examination and evaluation of your oral pharynx and teeth from an obstructive sleep apnea viewpoint
- A one-on-one discussion of your specific needs
- Detailed treatment planning
- Thorough patient education
- Communication with your physician(s)
- Long-term follow-up

The successful delivery of oral appliances requires technical skill, acquired knowledge, and judgment regarding outcomes and risks of these therapies. **Dr. Lipton has advanced training in dental solutions for snoring and obstructive sleep apnea. He can construct a custom-made appliance that will help keep your airway open as you sleep and improve your quality of life.**

# Journey Through Oral Appliance Therapy

*At various times throughout the process of Oral Appliance Therapy, Dr. Lipton will confer with the patient's physician.*

Patient is referred by a healthcare professional

Patient has had a Sleep Study and is self-referred

1. Preliminary phone meeting with Sleep Patient Coordinator and Questionnaire is sent to patient.

2. Completed Questionnaire, diagnostic Sleep Study, physician referral\* and dental x-rays are all obtained.

3. Review of records performed by Dr. Lipton to determine if patient is a possible candidate for oral appliance therapy.

4. If patient is a candidate for treatment, an exam appointment is scheduled and insurance is verified and sent documentation.

5. Consultation and clinical evaluation with Dr. Lipton is performed.

6. If candidate, appointment with Dr. Lipton for impressions and measurement for oral appliance is completed.

7. Dr. Lipton delivers oral appliance and gives instructions for use.

8. Follow up visits are scheduled at 3-week intervals until *subjective* success is obtained.

9 Sleep Study is scheduled to obtain *objective* results.

10. Sleep Study indicates success.

11. A 6-month follow up visit is scheduled.

12. Annual follow up visits are scheduled.

*\*Referring providers may download patient referral forms at [liptondds.com](http://liptondds.com)*

# Insurance & Financial Information:

## **Oral appliance therapy is covered under medical insurance.**

Most medical plans provide benefits for MADs for obstructive sleep apnea. Successful treatment for OSA is shown to reduce total healthcare costs by 50% due to the alleviation of other medical conditions associated with OSA. It is our experience that over 95% of medical plans provide benefits for MADs.

- We accept most Medical Insurance Plans.
- We employ a professional medical billing service to verify benefits and obtain pre-authorization when required.
- As a courtesy to you we will help you get reimbursed by your insurance company, according to your policy.
- We file insurance claims electronically in order to minimize the time frame for reimbursement.
- We are not in-network with insurance plans. However, we advocate for an in-network gap exception when available to obtain reimbursement at the in-network benefit level.
- Each medical plan is unique so "the allowable amount" will vary depending on the level of plan that was purchased.
- We require payment at the time of service unless the medical benefit is definitively known; In which case only the out-of-pocket payment is due.
- We also offer 6 months of interest-free financing through a trusted third-party source.
- **We accept Medicare (non par).**

“This (MAD) has completely changed my life.... I fall asleep now. I breathe. I don’t thrash at night. I don’t wake up struggling for air. It’s wonderful. I wake up. I’m alert. I’m energized. My wife notices it. My friends all notice it. My co-workers. I even look better according to them. I can’t say enough for this. As far as using it, it’s not hard to use. It’s not hard to maintain. It’s wonderful!”

—Jack Dusek

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**JAMESLIPTONDDS**

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