



# Obstructive Sleep Apnea Awareness

## Case Vignette: OSA and Stress

### Presenting Complaints

A male white patient (A.C.) aged 33 years, presented to his doctor's office for an annual physical examination. He said he was stressed at work and had been feeling irritable on a number of occasions. He works as a talent acquisition specialist liaising with multiple universities in the US and is concerned that this irritability will impact on his customer service. He complained of daytime drowsiness and dozing while at work. His partner added that he snored at night as well.

### Past History

Nothing significant. A.C. appeared to be extremely fit. He quit smoking a few years ago and was a social drinker. Family history was unremarkable.

### Physical Exam

The physical examination showed that the general health status was good. The patient's height was 1.75 m, and the weight was 66 kg. He had a BMI of 21.5. Heart and lung function was normal. Ears, nose, sinuses, eyes, lymph nodes and thyroid exam was normal. No craniofacial bone alterations. Mouth and oropharynx: teeth in good state, palate, uvula, and tongue within normal limits, grade I tonsils, Mallampati grade II. Other systems' checks were also with normal limits.

### Testing

His PCP was aware that healthy and skinny people can also suffer from sleep apnea making it essential to look for the symptoms before weighing the conclusions. Because A.C. complained of daytime sleepiness, his doctor asked him to complete the Epworth sleepiness scale (ESS) questionnaire.

*The ESS subjectively assesses excessive daytime sleepiness by asking patients to rate their chance of dozing off from 0 (would never doze) to 3 (high chance of dozing) for 8 commonly encountered scenarios, for a total possible score of 24.*



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Would never doze	Slight chance of dozing	Moderate chance of dozing	High chance of dozing	
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Sitting and reading
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	Watching TV
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Sitting inactive in a public place (e.g. cinema or in a meeting)
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Being in a car for an hour as a passenger (without a break)
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Lying down to rest in the afternoon (when possible)
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sitting and chatting to someone
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Sitting quietly after lunch (not having had alcohol)
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	In a car when you stop in traffic for a few minutes
<b>Calculate Score</b>				
Your Score				
15				

**Figure 1. Results of Epworth Sleepiness Score**

### Test results:

The ESS score generated was 15/24 (Figure 1). A score in the range of 13-15 is interpreted as Moderate Excessive Daytime Sleepiness. [\[About the ESS\]](#)

His PCP then ordered a sleep study(Polysomnography). Polysomnography results were: AHI- 25/h; 2 apneas/h and 23 hypopneas/h; 86% minimum oxyhemoglobin saturation. The AHI was classified as moderate.

*The number of apnea/hypopnea episodes per hour is named the apnea/hypopnea index (AHI), defined by the American Academy of Sleep Medicine, which classifies OSA into mild (AHI from 5 to 15 apnea/hypopnea episodes per hour of sleep), moderate (AHI from 16 to 30), and severe (over 30).*

## Discussion of Treatment Plan

A.C.'s doctor explained that continuous positive airway pressure(CPAP) is considered the gold standard treatment for OSA. Upon learning the details however, A.C. mentioned that because



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of his job, he was frequently traveling and so would prefer an alternative. He was concerned about his compliance. His PCP then talked about oral appliance therapy as another effective treatment option. His teeth were in good condition, and he had no temporomandibular joint issues. He decided to refer A.C. to a [qualified dentist](#) for an option for an oral appliance (OA).

A dental examination revealed satisfactory dental, periodontal, and temporomandibular conditions. As the PSG report showed that A.C. had moderate OSA, his dentist explained that a custom-fit oral appliance is a comfortable, portable, results-driven alternative to CPAP therapy.

### Outcome of Case

A.C. agreed to use a mandibular repositioning appliance (MRA). He said this would be more suitable for his lifestyle. (Figure 2)



**Figure 2. Patient A.C. using the mandibular repositioning appliance**

*Source: Domingos RG, Dolci JEL, Harashima T. Obstructive sleep apnea: clinical results of a case treated with an oral appliance. Braz J Otorhinolaryngol. 2011 Jul-Aug;77(4):537.*

After the dental clinical examination, molding, placing of the mandibular repositioning appliance, and control, the patient underwent a second polysomnography, which yielded an AHI of 4/h and a 90% minimum oxyhemoglobin saturation while using the appliance. The BMI in this exam was 21.8.

The patient was compliant and had no complaints after the initial few days of discomfort and transient morning jaw pain. A periodic follow-up was planned to ensure treatment effectiveness and to observe for possible side effects.



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## Teaching Points

Diagnosis and treatment of OSA may contribute to improved quality of life for patients. Continuous positive airway therapy continues to be the gold standard OSA treatment be it mild, moderate, or severe. Patients who seek alternative therapies, or have adherence issues with may require a multidisciplinary approach as in this case. Dentists are becoming increasingly aware of the importance of the detection and management of obstructive sleep apnea. Clinicians should consider a patient-centered approach and develop a treatment plan that may maximize benefit. MRAs hold an important role in the treatment of OSA; however, knowledge of indications and contraindications for treatment, potential areas of oropharyngeal obstruction, appliance design, and treatment steps are vital to ensure maximum treatment success.

**Adapted from:** Domingos RG, Dolci JEL, Harashima T. [Obstructive sleep apnea: clinical results of a case treated with an oral appliance](#). *Braz J Otorhinolaryngol*. 2011 Jul-Aug;77(4):537. doi: 10.1590/S1808-86942011000400021. PMID: 21860984; PMCID: PMC9450699.

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## Additional Reading

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- Manetta IP, Ettlin D, Sanz PM, Rocha I, Meira E Cruz M. [Mandibular advancement devices in obstructive sleep apnea: an updated review](#). *Sleep Sci*. 2022 Apr-Jun;15(Spec 2):398-405. doi: 10.5935/1984-0063.20210032. PMID: 35371398; PMCID: PMC8906377.
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- Cunha TCA, Guimarães TM, Schultz TCB, Almeida FR, Cunha TM, Simamoto PC Junior, Bittencourt LRA. [Predictors of success for mandibular repositioning appliance in obstructive sleep apnea syndrome](#). *Braz Oral Res*. 2017 Jun 5;31:e37. doi: 10.1590/1807-3107BOR-2017.vol31.0037. PMID: 28591236.
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