

# Thinking Beyond Traditional Oral Appliances

Jean-François Masse, DMD, MSc, FACD, Diplomate, ABDSM

Editor-in-Chief *Journal of Dental Sleep Medicine*  
Universite Laval, Quebec City, Quebec, Canada

Even though the pandemic seems to be lasting forever and the world appears to be standing still, clinical advances seem to happen more rapidly than ever before. Our world of DSM is impacted by the new possibilities of treatment options being presented to us. Being part of a large non-profit organization like the AADSM allows us, its members, to have insights into new technologies while also being able to rely on the clinical experience of our colleagues. In most cases, this should help us as we evaluate how new techniques and technologies may or may not prove to be worth investing in as we look to provide optimal patient care.

One of the technologies that comes to mind is the use of lasers to improve snoring. The idea has been there for a number of years, but it has seemed to gain real momentum in the last year. Laser companies have been able to create instruments that can be used in many aspects of dentistry<sup>1</sup>, helping to offset the expense of the instrument. Just like the iPhone in 2007<sup>2</sup>, this converging of technologies could change the paradigm of laser usage to make the purchasing of a dental laser feasible.

There are, however, a few considerations as we assess these new technologies.

Using lasers as an example: first, how do lasers fit within our scope of practice? This convergence of technologies encompasses more than the dental field. Lasers such as these are also currently being used in aesthetic services: skin resurfacing, tattoo removal and permanent hair reduction to name a few.<sup>3</sup> It seems, from the information gathered on the topic, that the use of these devices is extremely simple. I invite you to go on YouTube to watch the laser treatment of snoring.<sup>4</sup> In fact, they are being promoted as being so easy to use that in my city, a beauty salon was sold a laser and is now advertising on the radio that they treat snoring.<sup>5</sup> Do beauticians screen their snoring clients for sleep apnea or encourage them to get sleep tests? Since they are not bound to the rules of dental-medical boards as we are, I am worried. This raises the question of legal responsibility regarding snoring treatment. The seemingly sudden introduction of such a technique seems to have cut out dental associations, leaving a legal void as to the responsibilities of dentists. We encourage patients to get a snoring diagnosis prior to giving them an oral appliance; should the same rules apply to lasers? After personally sending a few emails regarding the situation to my dental board, I have a feeling that it might

take a while before we get any feedback from governing authorities.

It is also interesting that lasers could also be used for many procedures that are considered “smile enhancements.” Dentists could extend the services we are offering to more aesthetic procedures, like advanced skin care. As ludicrous as this idea may sound at first, it is not. Some of us are already administering products like Botox<sup>6</sup> and fillers like Juvéderm. If beauticians are using lasers for snoring, is it too much to consider that doctors of dental surgery could offer such services? I am not saying we should definitely go this route, but rather, I am suggesting we talk about it.

Second, as health care providers, we need to be able to use both clinical judgement and evidence-based care when treating patients. It is our job to evaluate the evidence regarding the use of new technology. If we continue to use lasers as an example, besides a couple of studies on the histological effect of the lasers on rat palates<sup>7,8</sup>, we only find a few on using lasers to treat snoring.<sup>9-11</sup> One, based on 24 patients<sup>9</sup>, determined that even if the snoring improves in apneic patients, there is no improvement in their apnea-hypopnea index. I could not help but think how interesting a study combining oral appliances and laser treatment in OSA patients could be. Another study, looking at 30 patients this time, reports that the treatment is successful at three months at a level of 96.4% - a success rate which is rarely heard of in medical fields.<sup>10</sup> However, the success rate was based on patients’ personal evaluations via questionnaires. I do not want to diminish the value of the study, but it would have been interesting to see more objective metrics. I always think that cases that don’t work are as interesting as successful cases – this helps the clinician in patient selection. With such a high success rate, there is not much here to help us avoid bad case selection. With studies showing such interesting results, I anticipate more published research in the near future.

Although I have focused on lasers, it is important to note that these same questions could be applied to many new technologies in the field of DSM. We absolutely need to be open to other ways to treat sleep apnea. As oral appliance manufacturers are making sturdier, smaller, more comfortable devices and streamlining the manufacturing process using systems like 3D printers, the success rate of OAT is, despite being very good, improving marginally. Nevertheless, being able to offer

convenient and personalized therapies is key to improving success.

The future looks very bright for our field. We just need to keep our eyes opened.

If you have comments or would like to share your experience with new technologies, your input is appreciated, so do not hesitate to write.

### CITATION

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### SUBMISSION AND CORRESPONDENCE INFORMATION

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Address correspondence to: Jean-François Masse, DDS, MSc, FACD, D.ABDSM, Professor, Université Laval, 2780 Masson #200, Quebec City, QC, G1P 1J6, Canada; Tel: 418871-1447; Fax: 418-871-4983; Email: [jean-francois.masse@fmd.ulaval.ca](mailto:jean-francois.masse@fmd.ulaval.ca)