Response to "Compliance and Efficacy of Titratable Thermoplastic versus Custom Mandibular Advancement Devices" from Friedman M et al
Olivier M. Vanderveken, Paul H. Van de Heyning and Marc J. Braem
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What is This?
Letters to the Editor

Medical Harm and Risk
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No sponsorships or competing interests have been disclosed for this article.

Congratulations to Dr Rosenfeld for a very insightful discussion of the complex issues involved in the subject of medical harm and risk.1 One additional aspect implied but not overtly discussed is the issue of risk of harming patients by not treating them. It is very tempting to avoid even the possibility of harming a patient by extreme conservatism in even offering treatment. I observe this strategy in practice in my medical community every day. Patients with chronic facial pain have certainly been spared the risks of endoscopic sinus surgery by not being advised of its availability. The risks inherent in therapeutic nihilism often remain just as underappreciated as the risks inherent in medical or surgical intervention. Dr Rosenfeld has the issue precisely defined. Our challenge is not to avoid all risk at all cost but to clearly identify, weigh, and communicate the risks, both of intervention and of failing to intervene.

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Response to “Compliance and Efficacy of Titratable Thermoplastic versus Custom Mandibular Advancement Devices” from Friedman M et al
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We read with great interest the recent article by Friedman et al titled “Compliance and Efficacy of Titratable Thermoplastic versus Custom Mandibular Advancement Devices.”1 Currently, mandibular advancement device (MAD) treatment is the primary alternative to continuous positive airway pressure (CPAP) therapy for patients with obstructive sleep apnea-hypopnea syndrome (OSAHS). Potential disadvantages of custom MADs are the cost and time required to construct the device.2 As a result, thermoplastic MADs that allow for direct intraoral fitting have been evaluated.3,4 It has been hypothesized that thermoplastic MADs might be used as an alternative to custom devices, saving time and cost. Thermoplastic MAD use has also been suggested as a temporary screening option to determine if success can be expected with a custom MAD. In a randomized, controlled, double-crossover trial comparing a nontitratable thermoplastic with a nontitratable custom MAD, we could demonstrate that the custom MAD was more effective than the thermoplastic MAD.2 In addition, one-third of the patients demonstrated compliance failure with the thermoplastic MAD mainly because of insufficient overnight retention.7 It seems that the side effects of thermoplastic MADs differ from those of custom MADs, with difficulty in optimal fit, leading to discomfort, and insufficient overnight retention considered the main reasons for subsequent discontinuation of thermoplastic MADs.2,5

The article by Friedman et al1 is the first to compare the efficacy of a titratable thermoplastic MAD with a titratable custom MAD for the treatment of OSAHs. First, the results indicate that the overall treatment success with the custom MAD was twice as high as with the thermoplastic MAD (89.5% vs 44.7%).1 Second, the 6-month adherence rate for the thermoplastic MAD was only 32.5% versus 50.9% for the custom MAD.1 Third, in this study, the reasons for nonadherence in the
custom group were again clearly different from the reasons described for nonadherence in the thermoplastic group. Discomfort (n = 10) and insufficient overnight retention (n = 5) were the most common reasons for discontinuation of the thermoplastic MAD, whereas ongoing symptoms (n = 4) was the main reason for the custom MAD.¹

Friedman and colleagues¹ conclude that titratable thermoplastic MADs might be a potentially useful, temporary treatment option. In our opinion, however, one should be careful about recommending MADs that show low efficacy and adherence to patients with OSAHS seeking non–CPAP treatment since a negative experience or a poor result can lead to unjustified negative generalizations concerning the effect that can be expected later with a custom MAD.

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References

Response to Letter to the Editor by Vanderveken et al Regarding “Compliance and Efficacy of Titratable Thermoplastic versus Custom Mandibular Advancement Devices”

Thank you for your Letter to the Editor in reference to our article. Although your points are well taken, I cannot agree completely with your assessment of the utility of thermoplastic mandibular advancement devices.

My experience in treating hundreds of patients with both thermoplastic and custom titratable mandibular advancement devices (MADs) is that patients more readily accept initial treatment with thermoplastic devices over custom devices because of their low cost and the ease of the fitting process. Indeed, many patients find the thought of spending between $500 and $5000 at the dentist (depending on their insurance coverage) on a device they are not sure they will like to be a significant deterrent. Although long-term tolerability and compliance with thermoplastic devices are unquestionably lower than for custom devices, initial efficacy figures of 77.2% for classical surgical cure (apnea-hypopnea index [AHI] <20 and 50% reduction) and 52.0% for cure (AHI <5) should not be so unceremoniously discounted.*

In many patients, even those who have developed compliance-affecting issues such as discomfort or diminishing fit with a titratable thermoplastic device (TPD), I have observed that initial resolution of sleep problems with TPD is more commonly a significant incentive for patients to pursue additional treatment, rather than an experience leading to unjustified negative generalizations concerning the effect that can be expected later with a custom MAD.

In principal, I agree with your statement that one should be careful about recommending MADs that show low efficacy and adherence to patients with obstructive sleep sleep apnea-hypopnea syndrome seeking non–continuous positive airway pressure (CPAP) treatment. However, it should be reiterated that although oral appliances are considered an appropriate first-line alternative for patients with mild to moderate sleep apnea, an inclusion criterion for the use of mandibular advancement devices in our study was previous failure of both CPAP and surgery (ie, patients with difficult to control obstructive sleep apnea who would otherwise go untreated). Although statistically significantly better

*Please note that the statement “First, the results indicate that the overall treatment success with the custom MAD was twice as high as with the thermoplastic MAD (89.5% vs 44.7%),” is a misquotation of the results of our study. These figures do not appear anywhere in our article or accompanying tables.