



Driving On “Auto”: Hands-On is More Effective Than Hands-Free

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Regarding Powell et al.’s auto-bilevel study,¹ Quan, Awad, Budhiraja, and Parthasarathy wrote a commentary entitled, “The Quest to Improve CPAP Adherence—PAP Potpourri is Not the Answer” and offered a summarizing point: “Finally, such negative device trials [auto-adjusting devices, etc.] suggest that any improvement in PAP adherence rates will more likely occur by addressing social and psychological obstacles to usage rather than newer technical innovations in PAP delivery or interface design.”²

We beg to differ—not because it is less important to address social and psychological obstacles. To be sure, these aspects are critically relevant to PAP adherence. Our development of the PAP-NAP, in which patients learn imagery distraction techniques to overcome unpleasant mask and air pressure sensations as well as elementary emotional processing skills to recognize and work through resistance to PAP therapy, demonstrate our strong commitment to managing psychosocial factors.³

Our point of contention is the authors’ lack of distinction on how auto-adjusting devices are currently used in research studies and clinical practice. We find ourselves at odds with current practices, as described by Quan and colleagues and as reported in the literature, because we *manually* titrate *auto*-adjusting devices in the sleep lab for the vast majority of our patients. Apparently, most researchers and clinicians use these devices only in their auto-adjustment mode (lab or home), which bypasses the incredible talents, skills, and expertise that a sleep technologist could bring to bear when manipulating these “auto” devices to generate an exquisitely finetuned titration.

We are nonplussed by the reluctance to use this human-directed approach to the auto-adjusting technology, given the unequivocal evidence in the “auto-only” mode; these devices show: (a) no clear enhancements beyond standard PAP; (b) mixed or ineffectual responses to RERAs; and, (c) almost no useful information on residual RERAs on data downloads. Just on these three factors, auto-adjusting devices in “auto” mode do not meet AASM guidelines for titrations, let alone provide definitive therapy.

In contrast, when manually titrated in a sleep lab—with the auto-adjusting feature still engaged and coupled with direct access to several of the advanced technological features built into these devices—the combination of man and machine can fine tune the pressure settings to eliminate RERAs while preventing or resolving expiratory pressure intolerance. These two effects align with AASM guidelines.^{4,5} First, a PAP titration must eliminate apneas, hypopneas, and RERAs.⁵ Second, among patients with expiratory pressure intolerance, bilevel-type devices should be tested.⁴

In our lab experience, eliminating RERAs with a fixed pressure delivery system almost invariably triggers the side effect of expiratory pressure intolerance—either subjectively (patient complaint) or objectively (irregularities on the expiratory limb of the airflow curve). We find auto-bilevel, APAP with EPR, and ASV (the latter when complex sleep apnea emerges) the most effective devices for preventing or resolving expiratory pressure intolerance as we strive to titrate out RERAs and normalize the airflow curve. This hands-on approach to the auto-adjusting technology during a titration in the sleep lab consistently achieves these optimal results.

This protocol is a testable hypothesis, but it cannot be tested until researchers and clinicians put their sleep techs behind the “steering wheel” during auto-PAP titrations.

CITATION

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This is not an industry supported study. Dr. Krakow operates 6 websites providing education and offering products and services for sleep disorder patients, he markets and sells 3 books for sleep disorder patients, he owns and operates a commercial sleep center, and is the president of a nonprofit sleep research institute which has received support from ConAlma, Respiroics, GlaxoSmithKlein, and Covidien. He has participated in speaking engagements supported by ResMed and Respiroics. Mr. Melendrez is a Principal Owner and the Chief Operating Officer of Quality Sleep Solutions, inc. a for-profit sleep center network. Mr. Ulibarri, Ms. Kikta, Mrs. Sanchez, and Ms. McIver have indicated no financial conflicts of interest.