Split decision

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In this issue of *Sleep and Breathing*, Jacob Collen and colleagues at Walter Reed Army Medical Center, in their paper “The Impact of Split-night versus Traditional Sleep Studies on CPAP Compliance,” re-visit the question of whether outcomes with therapy with split-night protocols are as good as a two-night diagnostic/therapeutic study sequence. Previous studies have touted the feasibility of the split protocol, and guidelines have been established for their implementation; however, the split program is used in the minority of patients in the USA. I believe there are two possible explanations for the lack of dominance of this in clinical practice. Either there is an economic incentive biasing against split studies or they just are not as good from a clinical perspective.

Clearly, the economic incentives for more studies and the two-night approach are in play if a lab's schedule is at risk of not being full when a majority of its patients are “split”. This has not been the experience of most of us who practice in medium to large urban areas, where wait times are longer than desirable and, as in this study, where the time between the diagnostic night and the CPAP titration approaches unacceptable levels. In an environment such as the US military medical system where the system is at risk for medical costs, there is an incentive to decrease resource utilization across a population, and it should not be surprising that two thirds of their patients are treated with a split protocol. In the USA, future adjustment or reformation of the health care payment system may dramatically alter financial incentives and result in significant alterations in practice patterns throughout the country.

In addition to cost, the distinct advantage of split studies is the ability to initiate therapy immediately after diagnosis. Eighty days in this study was the lag between the diagnostic study and the CPAP titration and most probably, had a negative effect upon the long-term success of those patients. The question primarily addressed by this study was “is a split study as good?” I suggest the answer is a split decision; sometimes it is, and sometimes it is not.

When evaluating the data provided, we must ask: Is this population reported comparable to my population? The military population presented is middle aged, and although some retirees are probably present, the majority may be in active duty. As a result, massively obese individuals, an increasing number of our patients, may not be represented in this study. These patients, with BMIs over 40 kg/m², are easy to diagnose in a split protocol, but, even after a 2-h diagnostic epoch, there is often insufficient time to complete an optimal therapeutic trial. The motivation of military professionals to adhere to therapy when their employer is providing the medical care may create incentives not present in the general population as well.

Massively obese patients have a high prevalence of obesity hypoventilation and may require oxygen or ventilatory assist or even a second full night of titration. Their absence from this paper may limit the ability to generalize the findings of this paper. On the other end of the spectrum, milder patients are very difficult to split as they often may not meet criteria in the allotted time, and since their sleepiness is often less, sleep latency and REM latency are prolonged. Patients with complex apnea are also not ideal split candidates and will usually require a second night on top of the split night to devise a cogent therapeutic plan. One interesting finding of the Collen paper was the inclusion of

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milder patients in the split protocol and severe patients in the two-night protocol. This deviation from the protocol is not unusual and underscores the difficulty sleep technologists have in scoring severity of events “on the fly”. Finally, splits may be less useful in that subset of patients (particularly women) who have sleep state-dependent sleep apnea during stage REM.

The usefulness of split studies is therefore limited to moderately obese males who are not on REM suppressant medications with rather classic OSA. Luckily, that remains the largest population we are asked to evaluate and treat. The work of Collen and his colleagues adds support to the use of the split protocol, and its use needs to be encouraged in the appropriate populations.