

Should Auto CPAP be initiated in Patients with Sleep Apnea Prior to Manual CPAP Titration?

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The incidence of sleep apnea is estimated to be as high as 25% in males and 9% in females. The complications associated with sleep apnea are well recognized and therapy is usually required [1,2]. Continuous positive airway pressure (CPAP) has been the most successful noninvasive therapy in these patients. Auto CPAP devices have been introduced over the last few years and unfortunately the trend has been towards initiating these devices prior to manual CPAP titration. Suboptimal CPAP pressures have been shown to be inadequate in treating this disease and can be potentially dangerous [3,4]. Insurance companies have got on board for cost savings and insist on auto CPAP therapy and are refusing to cover manual CPAP titration in the sleep laboratory. In fact, some medical reviewers have even suggested not performing an initial evaluation but initiating patients on auto CPAP if sleep apnea is suspected. Rarely sleep certified physicians are involved with these patients and respiratory therapists have been adjusting the basal CPAP pressure if the AHI calculated by these auto devices were elevated. These changes are made anywhere from 2 -4 weeks to 2- 4 months until the AHI is "adequate". There is usually no physician input and no data or evidence to documents these manures were effective and justified. The accuracy of AHI scored by these auto devices is yet to be fully evaluated, though a couple of studies show them to be accurate [5]. These auto devices do not score AHI the same way as manual titration. The auto devices adjust their pressures using different algorithms and mainly rely on flow and vibration and impedance and they can vary significantly with different devices [6-9]. Other than changes in flow, the oxygen desaturations and arousals are taken into account in manual titration. Snoring can

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occur in patients even at optimum pressures and CPAP pressure need not to be titrated up.

Approximately 10% of patients fail to respond to CPAP therapy despite tolerance to the device. Auto CPAP titration in these patients prior to manual titration would be dangerous as the auto devices fail to recognize this problem and result in extremely high CPAP levels. Another 15 to 20% of sleep apnea patients respond to lower CPAP pressures but fail on higher CPAP pressures. Auto devices do not differentiate these issues either and with increasing pressures the AHI would deteriorate and a viscous cycle ensues.

Studies showing auto CPAP to be effective in OSA patients have all correlated their response to the AHI but not to the optimum CPAP pressure. We have demonstrated that if the optimum CPAP pressure is 8 cm and above, the failure rate is over 70% in three of the commonly used auto devices [10].

Further double blinded studies are required to determine if auto CPAP devices can be safely initiated on obstructive sleep apnea patients without manual titration.

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