



## Ambulatory approach is non-inferior to hospital-based approach in managing suspected OSA

Journal:	<i>American Journal of Respiratory and Critical Care Medicine</i>
Manuscript ID	Draft
Manuscript Type:	LE - Letter-to-the-Editor
Date Submitted by the Author:	n/a
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Subject Category:	15.08 Sleep Disordered Breathing: Management < SLEEP
Keywords:	OSA, ambulatory, hospital-based PSG, level 3 sleep test

**Home-based approach is non-inferior to hospital-based approach in managing patients with suspected Obstructive sleep apnoea syndrome**

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**Running head:** Home-based versus hospital-based management of OSAS

Word count:425

Nil conflict of interests

Funding support: Nil

Writing and approval of the letter: DH, SN, WT

Attended polysomnography (PSG) is the conventional approach for managing patients with suspected obstructive sleep apnea syndrome (OSA), but the waiting time is lengthy for this labour intensive procedure.<sup>1</sup> We congratulate Corral J, et al for their nice multi-center randomized non-inferiority study showing that level 3 respiratory polygraphy protocol was non-inferior to the PSG protocol based on the Epworth sleepiness scale (ESS) as the primary endpoint, with a lower cost of 416.7€ per patient over 6 months while other endpoints such as quality of life, blood pressure, and PSG were similar between the two protocols.<sup>2</sup> In a similar study comparing an ambulatory approach versus the hospital-based approach in managing new referrals with suspected OSA at the Prince of Wales Hospital in Hong Kong, we have shown no difference in ESS (primary endpoint), but greater improvement in Sleep-Apnoea-Quality-of-Life Index [difference 0.3,(95%CI 0.02, 0.6), p=0.033] at 3 months in the ambulatory group. The mean costs for patients in the ambulatory group and hospital-based group were HK\$8479(989) and HK\$22,248(2407) respectively. The mean difference between the two groups was HK\$-13,769 (USD-1770 or -1525€ equivalent) per patient with 95% CI. (-14324, -13213), p<0.001 in favour of the ambulatory approach. The waiting time of patients with moderate to severe OSA (AHI $\geq$  15/hr) who were started on CPAP treatment from the first clinic consultation to the diagnostic sleep test, autoCPAP titration, and CPAP treatment was 189.6, 148.8

and 145.0 days shorter in home-based than hospital-based approach respectively.<sup>3</sup>

Another multi-center randomized non-inferiority study which mimicked limited-channel studies by extracting data from laboratory PSG has shown that manually scored level 3 testing was non inferior to laboratory based PSG in outcome measures including Functional Outcome of Sleep Questionnaire score, ESS, CPAP usage and physician's decision making.<sup>4</sup>

The American Academy of Sleep Medicine has recently endorsed home sleep apnea testing with a technically adequate device as an alternative to PSG. The ambulatory approach must be ordered and interpreted by a board-certified physician to diagnose OSA or evaluate treatment efficacy in uncomplicated and symptomatic adult patients that indicate an increased risk of moderate to severe OSA.<sup>5,6</sup> The data from Corral et al<sup>2</sup> and ours<sup>3</sup> have clearly shown that the ambulatory approach for diagnosis and treatment is non-inferior to the conventional hospital-based approach in managing patients with suspected OSAS in terms of improvement of symptoms and CPAP usage, with the added advantages of much shorter waiting time,<sup>3</sup> and substantial cost savings.<sup>2,3</sup> Such an alternative approach is particularly important in densely populated countries with limited healthcare resources to meet the growing demand for more rapid access to sleep testing.

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