



VIRTUOX

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The industry's most cost effective way to qualify oxygen patients!

Correlation Between Oxygen Desaturation Index and Apnea-Hypopnea Index in Adults With Suspected Obstructive Sleep Apnea

Objective

The aim of this study was to determine the correlation between the oxygen desaturation index (ODI) and the apnea-hypopnea index (AHI) as measured during Level III Home Sleep testing which utilizes high resolution pulse oximetry to determine ODI results.

Patients and Methods

Virtuox is an industry leading diagnostic test facility specializing in Home Sleep Testing (HST) nationwide. In a recent focused study of HST deployment, we measured the desaturation index and the respiratory disturbance index during Level III HST in a group of 798 patients aged 21 to 109 years with suspected obstructive sleep apnea syndrome. We compared the desaturation index to the respiratory disturbance index, utilizing the Resmed Apnealink Plus™ a Level III device with automatic analysis that derives apnea-hypopnea index (AHI), hypopnea index (HI), flow limitation, snoring and oxygen desaturation index (ODI). The oxygen desaturation indexes of 5 or more per hour were calculated by measuring 4% or greater desaturations within a 3 minute of onset utilizing high resolution pulse oximetry.

Results

The mean (SD) intraclass correlation coefficient between the AHI and the ODI was 0.89 (0.03) (95% confidence interval, 0.83-0.96), and the mean of the differences was -0.9 (14.2). The mean intraclass correlation coefficient for the desaturation index and the respiratory disturbance index was 0.93 (0.02) (95% confidence interval, 0.89-0.97), and the mean of the differences was -6.6 (8.3). Simply put, AHI greater than or equal to 5 (CMS minimum qualification level for PAP therapy) correlated to ODI greater than or equal to 5 greater than 89% of the time. Furthermore, AHI greater than or equal to 5 (CMS minimum qualification level for PAP therapy) correlated to ODI greater than or equal to 7 approximately 95% of the time and for ODI greater than or equal to 10 over 98% of the time.

Conclusions

There is a high degree of correlation between the oxygen desaturation index utilizing high resolution pulse oximetry and the apnea-hypopnea index measured with a Level III device. Utilizing the ODI as measured with a high resolution oximeter will yield accurate correlation to identify patients requiring further diagnostic sleep testing.

About Virtuox

VirtuOx, Inc. is a Medical Technology Services company that provides Diagnostic Tools and Services that enable a variety of healthcare organizations and professionals in diagnosing and treating respiratory diseases through vertically integrated platforms, products and services. The Virtuox VPOD series of high resolution pulse oximeters is a powerful, cost effective screening device to accurately screen patients and further characterize their level of Sleep Apnea. Contact us at 954-344-7075 or email us at info@virtuox.net to learn how we can provide the most cost effective method for screening potential Sleep Apnea patients.



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