Letters to the Editor

Utility of pulse oximetry in chiropractic practice?

To the Editor,

In their recent article,¹ Hall and Jensen concluded that pulse oximetry may have “the potential to be an integral part of chiropractic practice.” After reading the article and examining the references, I am in disagreement with this conclusion. In the section entitled “A Conceptual Model of Pulse Oximetry in a Chiropractic Clinical Setting,” the authors explain that hypoxia is a clinical indicator for performing pulse oximetry and state:

“Hypoxia is commonly found in the elderly [2] and those at risk for coronary vascular disease, [3] coronary artery disease, [3] sleep disordered breathing, [39] disorders of balance, hypertension, [3] chronic migraines, and anxiety and mood disorders, [3] all of which can be present within a population of chiropractic patients.”

The authors cite Roth and Holtmann² and Sommermeyer³ in this paragraph as references. The article by Roth and Holtmann² is used to support their statement that pulse oximetry is indicated because hypoxia is commonly found in the elderly. The cited study looked at elderly patients admitted to a geriatric rehabilitation unit wherein oxygen saturation levels were measured during sleep and concluded that, “the results presented here clearly support the urgent need for systematic sleep studies especially in elderly handicapped patients.” The Roth and Holtmann article does not support the routine use of pulse oximetry in the ambulatory elderly patient, and no evidence was provided by Hall and Jensen to support the notion that the average elderly patient is hypoxic.

The authors cite Sommermeyer³ to support their position that pulse oximetry is indicated in hypoxia-related disorders, including heart disease, sleep-disordered breathing, balance disorders, hypertension,

migraines, anxiety and mood disorders. Sommermeyer describes 61 patients who underwent a sleep laboratory study for suspected sleep apnea. Nowhere in this reference is there a discussion about the possible indication for the use of pulse oximetry in ambulatory patients with hypoxia-related disorders. Moreover, disorders of balance, hypertension, migraines, and anxiety and mood disorders are not mentioned in Sommermeyer’s article, which substantially impugns the use of pulse oximetry as proposed by Hall and Jensen.

Braun’s chapter⁴ is cited in Table 1 to support Hall and Jensen’s contention that pain is an indicator for pulse oximetry. A review of this chapter finds the following commentary with respect to pain; however, pulse oximetry is not mentioned⁴:

“Pain contributes to a rapid respiratory rate. A fractured rib produces pain on inspiration and therefore leads to a low-volume, rapid-rate pattern. Tachypnea is commonly part of any chest pain and is partly modulated through higher cortical input.”

Braun⁴ was also cited to support the claim that pulse oximetry is indicated for patients with emphysema, rib fractures, crushing neck or chest injuries, accessory muscle use, abdominal breathing only, and anxiety. These claims appear to be unjustified for, in Braun’s chapter, neither the word *pulse* nor *oximetry* is used; and the word *oxygen* is used only twice and neither in the context of measuring blood gases in the clinical setting.

In summary, there appears to be little support for the routine use of pulse oximetry in the ambulatory chiropractic patient population. I have concerns that the readership of the *Journal of Chiropractic Medicine* may be misled into believing that pulse oximetry is more useful than the authors suggest.

David R. Seaman DC, MS, DABCN
Professor, National University of Health Sciences
Pinellas Park, FL

References

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