dictated; and many suggestions fell in the middle. Once the debates and discussion ebbed, the Editorial Board voted that the CHEST requirements should remain basically the same, with some minor changes in wording.\textsuperscript{2} I believe this was a wise decision. Why? Because I believe that our peer review system works. If a paper undergoes peer review and is accepted for publication, then let the science speak for itself. If the author received financial support, that information is published in the footnote, and the reader should be trusted to make an informed judgment about that information and how it relates to the study at hand.

Certainly, defending against the unscrupulous is difficult. The possibility that an author is publishing data solely for personal gain will always exist; greed is an unfortunate but present trait in many people. If authors decide to lie about their data or publish false results, they will do it no matter how much disclosure is requested. Isn’t that one of the reasons for peer review? The challenge is to set up guidelines and requirements that allow the author to disclose sufficiently without penalizing or intimidating every author who submits a paper; the peer review system must complement that by distinguishing accurate, relevant science and weeding out the rest. CHEST has attempted to do this—the work is reviewed; if it passes, it is published with the disclosure, and we let the science do the talking.

Many distinguished journals, such as the New England Journal of Medicine,\textsuperscript{3,4} have banned persons with financial interests from writing op-ed pieces that pertain to subjects in which they have a financial interest. But what if a scientist with financial ties to a subject is the most qualified expert on that subject? The American Lung Association and American Thoracic Society, among others, have banned publication of any scientific material that receives funding from tobacco interests.\textsuperscript{5} I believe these decisions set very dangerous precedents and are outright censorship. They assume that potential conflict equates to actual conflict (and we know what happens when you assume). To ban anything because of potential conflict without any proof of actual conflict is shortsighted. Dr. Block has written on this subject before, and I agree with his statement that authors’ views “should be heard as long as the intellectual soil that fertilized those views is presented to the readership up front and personal.”\textsuperscript{5} Journals and organizations that refuse to consider papers because of potential conflicts of interest are sending a message that they do not trust certain authors, they do not trust their peer review system to make sound judgments about those papers, and they do not trust the readers to make judgments for themselves.

Let the peer review system do its job. If you don’t trust the system, change it or use an alternative. If you don’t trust your peer reviewers, find new ones you do trust. Do not, however, exclude or discount valuable scientific information because of potential conflict of interest. Judge the science, not the author.

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The Significance of Sleep-Disordered Breathing and Obstructive Sleep Apnea in the Elderly

As with most bodily functions, sleep deteriorates as we age. Although the elderly spend more time in bed, they have more awakenings, less slow-wave sleep, lower sleep efficiency, and are more easily aroused from sleep. The hypoxic ventilatory response during sleep diminishes as we get older; the response to hypercapnia is not as clear. There is more instability in ventilation during sleep as we age. It has also been shown experimentally that with aging, the muscles of respiration are less able to generate tension and resist fatigue.

There is currently a debate as to what degree sleep-disordered breathing in the elderly is “pathologic,” and whether obstructive sleep apnea (OSA) in the elderly is a less “morbid” condition. Numerous studies have shown that “normal” elderly patients have more respiratory disturbances during sleep than matched younger control subjects. Using an apnea index (AI) >5, one study showed that 0% of 60-year-olds, 12.1% of 70-year-olds, and 18.9% of 80-year-olds met this criteria.\textsuperscript{1} Using the same criteria, another study of a large community-based elderly population demonstrated an apnea prevalence of 24%, and 62% of those studied had a respiratory disturbance index (RDI) >10.\textsuperscript{2} Finally, another

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study of elderly volunteers showed that those with an AI ≥5 had more daytime sleepiness but no evidence of increased physiologic or neurophysiologic consequences. Several possible mechanisms for this increase in sleep-disordered breathing (SDB) with aging have been suggested, including increased pharyngeal resistance, decreased pharyngeal size, variability in ventilation/drive, and an increased arousal response.

In this issue of CHEST, Krieger et al (see page 875) describe patients referred to their sleep laboratory for OSA who were studied utilizing an esophageal probe. Of those patients, 116 had an AI ≥20 and were further evaluated with three separate measures of respiratory effort. Patients were subdivided by age; older patients had reduced respiratory effort indices with all three measures, and less oxygen desaturation with obstructive apneas (OA). What is the significance of these findings?

First, we must remember that this was not a longitudinal study. Did the older age group have milder OSA 10 to 20 years ago and present for treatment now because it worsened? The findings of reduced respiratory effort during apneas could be explained by the effects of chronic repetitive airway obstructions causing respiratory muscle fatigue. Alternatively, these patients may come to medical attention later because their increased arousability with respiratory events makes them more sleep-deprived, and subsequently they have more daytime hypersomnolence. One longitudinal study that examined patients with untreated OSA (mean age, 51 years at baseline) showed that neither the number of SDB events nor oxygen desaturation worsened over time. This suggests that these theories are less likely to be true.

It is also possible that the older patients recently developed OSA. As the authors suggested in their manuscript, the reduced effort could be related to an aging effect on the respiratory muscles (less able to generate tension). From this study design, there is no way to know which is the most likely scenario.

How can the reduced oxygen desaturation be explained, particularly given that the apneas tended to be longer in duration? The degree of oxygen desaturation during an apnea is dependent on the following factors: (1) alveolar volume (VA) at the beginning of the apnea: the higher the VA, the slower the rate of desaturation; (2) metabolic rate: the lower the metabolic rate, the slower the rate of desaturation; (3) ventilation-perfusion ratio (V/Q) mismatch/shunt: the greater the V/Q mismatch, the more rapid the rate of desaturation; (4) anemia/blood volume: the lower the hemoglobin/blood volume, the quicker the desaturation; (5) cardiac output: the higher the cardiac output, the quicker the desaturation. Differences attributed to variables such as age and body size represent combinations of these physiologic variables, ie, a child has a more rapid desaturation because of decreased VA relative to body size, a higher metabolic rate, and lower hemoglobin concentration. It could be hypothesized that the older person who desaturates less during a longer apnea could do so because of a lower metabolic rate. It was shown by Fletcher et al9 that desaturation in animals was more severe during an OA than during a central apnea induced by paralysis. Presumably, this was because of an increased metabolic rate during the OA. Perhaps a lower metabolic rate as a consequence of diminished respiratory effort is the reason for less desaturation.

Obviously, more investigation is needed to determine why these changes occur secondary to aging during sleep. It has been shown that older OSA patients have a similar degree of SDB compared to younger patients diagnosed in the same sleep laboratory, more depression and cognitive deficits than unaffected seniors, and possibly increased mortality (particularly in women). These findings suggest that although the older OSA patient may differ from the younger OSA patient, until more data are available, they should be treated similarly.

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