Response

To the Editor:

I thank Drs. Sestini and Irving for their comments on my article.1 It is apposite that Drs. Sestini and Irving refer to Karl Popper’s writings on falsification and the demarcation problem. Popper, the foremost philosopher of science in the 20th century, devoted much effort to distinguishing between fields that fall under the name of science and fields that fall outside that rubric. He argued that falsification (a concept allows itself to be tested, and it is possible to prove it false) is the best criterion of demarcation. Popper took Eddington’s experimental testing of Einstein’s general theory of relativity as his exemplar of falsification. Testing a concrete prediction is the very essence of science. Popper took Freudian psychoanalysis as his exemplar of “non-science.” In contrast to the specific predictions of relativity theory, psychoanalysis offered no opportunity for falsification. Thus, Popper categorized psychoanalysis as a nonscience. Drs. Sestini and Irving say that it does not make sense to test the validity of evidence-based medicine, a view shared by Haynes2 and by Straus and McAlister.3 As such, evidence-based medicine is a perfect example of Popperian nonscience.

Popper’s views on nonscience are enlightening; the acceptance of Freudian theory had:

the effect of an intellectual conversion or revelation, opening your eyes to a new truth hidden from those not yet initiated. Once your eyes were thus opened you saw confirming instances everywhere: the world was full of verifications of the theory. Whatever happened always confirmed it. Thus its truth appeared manifest; and unbelievers were clearly people who did not want to see the manifest truth; who refused to see it... The Freudian analysts emphasized that their theories were constantly verified by their ‘clinical observations.’

Substitute evidence-based medicine for where Popper writes Freudian, and the reader has a perfect description of evidence-based medicine and its advocates. History has a way of repeating itself—the second time as farce, as pointed out by Marx. The letter by Drs. Sestini and Irving brings to mind the comment of Peter Medawar (1960 Nobelist) that a debate on psychoanalysis (again evidence-based medicine) is “never much more than a skirmish, because... its doctrines are so cunningly insulated from the salutary rigours of disbelief”—not being open to falsification.5

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Continuous Critical Care and Long-Term Noninvasive Ventilatory Support for Patients With Neuromuscular Disease

To the Editor:

A recent article in CHEST (May 2008) by Ozsanacak et al6 provided an in-depth review of randomized studies on the use of nocturnal noninvasive ventilation (NIV) for patients with chronic symptomatic ventilatory insufficiency. Whereas nonrandomized studies have demonstrated that continuous ventilatory support can also be provided noninvasively in both the short-term and long-term settings,2,3 unlike in randomized trials on the treatment of symptoms, ethical concerns preclude the enrollment of patients with continuous ventilator dependence using noninvasive interfaces into randomized clinical trials on the efficacy of ventilator use. Although the authors have reviewed the use of continuous NIV elsewhere,4 because its use as an alternative to ventilatory support via tracheostomy has rarely been reported6 and the article by Ozsanacak et al does not mention it, this may cause readers to overlook the potential of NIV for ventilatory support.

While Ozsanacak et al6 reviewed the numerous benefits of nocturnal NIV compared to invasive mechanical ventilation, they did not discuss the practical NIV interfaces that facilitate daytime ventilatory support by noninvasive means, that is, NIV administered via 15-min angled mouthpieces that have been used by hundreds of patients in both the community setting2 and the critical care setting.8,10 Whereas NIV can be provided via nasal, oronasal, and mouthpiece interfaces, only the latter eliminates continuous connection to the ventilator and facilitates speech, swallowing, air stacking, and cosmesis.

It is also important to note that NIV cannot be used indefinitely either for nocturnal-only or full-time support if chest colds result in respiratory failure because of ineffective coughing. Thus, NIV can only be successful indefinitely if mechanically assisted coughing (MAC) is used by the patient with neuromuscular weakness who needs to cough out airway secretions.5,6 Failure to recognize the need for supporting the expiratory muscles via MAC as well as the inspiratory muscles by NIV at all ventilatory support levels is a trap of the permissive approach to NIV that has been called salutary rigours of disbelief.5
settings can result in what is termed NIV failure, when in fact the failure is often due to the omission of optimal NIV interfaces, full ventilatory support settings, and the omission of MAC to prevent airway congestion and pneumonia.\textsuperscript{3,4,6,10} Our center routinely extubates patients with neuromuscular diseases who have failed multiple spontaneous breathing trials, to the use of NIV and MAC, rather than resort to tracheotomy.\textsuperscript{4,6,7}

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Response

To the Editor:

We appreciate the comments of Drs. Cheng and Bach on our review\textsuperscript{1} of nocturnal noninvasive ventilation. We are well aware of the successful application of continuous noninvasive ventilation to selected patients with neuromuscular disease,\textsuperscript{2} as well as the writers’ extensive published experience on these techniques.\textsuperscript{3,4} However, our review focused on nocturnal applications of noninvasive ventilation, and a discussion of continuous use was beyond our scope. Also, we agree that the mouthpiece interface has a role in management of noninvasive ventilation, but space limitations precluded our discussing it because it plays a much smaller role in providing noninvasive ventilation during sleep than nasal or full face masks. Finally, we advocate the use of manually or mechanically assisted coughing methods for patients with weakened cough. We briefly discussed this in our review and referred to the work of Bach.\textsuperscript{4}

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Dysglycemia in Critically Ill Patients From Medicine

To the Editor:

I read with interest the article in CHEST (June 2008) by Hirshberg and colleagues.\textsuperscript{1} I was wondering whether the effects of medications on glucose metabolism are underestimated.\textsuperscript{2–4} Medications that are commonly prescribed in the ICU (eg, β-blockers, thiazide diuretics, and furosemide) could precipitate hyperglycemia. Gatifloxacin is widely used, but the glycemic effect of fluoroquinolone was reported\textsuperscript{4} after the study by Hirshberg et al\textsuperscript{1} was published. Perhaps, if the authors focus more on these medications, they might discover that the top 10 factors contributing to hyperglycemia that were cited in the article have changed.

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