very promising area of research on the relationship between dietary factors and the severity of EIB.

There is accumulating evidence that dietary modification has the potential to reduce the severity and incidence of asthma and EIB.² It has repeatedly been shown that a low-sodium diet reduces postexercise airway narrowing²,³ and moderates airway inflammation² in asthmatic subjects with EIB. It has also been shown that a 3-week fish oil diet, rich in omega-3 polyunsaturated fatty acids has a protective effect in suppressing EIB.²,⁵ In addition, antioxidant supplementation has also been shown to improve EIB to subclinical levels in significant numbers of individuals with EIB.²

The dietary factors mentioned above did not normalize postexercise pulmonary function in individuals with EIB. However, on average these dietary interventions did improve pulmonary function to below the clinical threshold of a 10% fall in postexercise FEV₁, which is commonly used for diagnosis of EIB. This level of improvement is not unlike that attained with many pharmacologic treatments, which also do not necessarily normalize pulmonary function in EIB patients but do improve pulmonary function to subclinical levels. Thus, the potential for enhancing the quality of life for those individuals with EIB by dietary modification or supplementation is high.

These findings point toward the prophylactic and acute therapeutic effects of selected dietary factors, which seem to be attainable by simple rearrangement of nutritional components, in patients with inflammatory diseases such as asthma and EIB.² It is also possible that any beneficial effect of diet on asthma and EIB is mediated through the combined effect of a variety of nutrients, rather than through any single nutrient.

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REFERENCES

To the Editor:

We greatly appreciate the comments of Drs. Mickleborough and Lindley regarding our review of exercise-induced bronchoconstriction (EIB) in athletes. We agree that dietary modification is a promising new area of research in the management of EIB.

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Shift Work in Intensive Care

To the Editor:

We read with great interest the study of Afessa et al (December 2005),¹ which piloted a shift system for housestaff in a medical ICU. Although this represents a novel pattern of working among doctors in US training programs, this has become the accepted standard in the United Kingdom. The authors concluded that their study was insufficiently powered to detect significant differences in mortality, length of stay, or educational outcomes, and that a larger multicenter study may be required to address these issues.² However, a possible confounding factor in this study was that the length and pattern of shifts may not have been optimal for reducing fatigue. While reduction to a 14-h shift represents a significant decrease both in the length of the duty period and the number of hours worked per week over the nonpilot period, in the United Kingdom this would, by current standards, be regarded as excessive. Although a decade or so ago the 100-h week was commonplace, national and European working-time legislation now limits doctors to working no > 56 h a week, with defined rest periods between shifts and days off between consecutive shifts.

The optimal shift pattern for medical housestaff may be informed by data from the aviation industry, where safety is of paramount concern. Aviation accidents have a huge impact not only in financial cost but also in adverse public perception. This has focused the attention of aviation authorities on working patterns, fatigue, and error. The shift patterns of aircrew now consider circadian rhythms, quantity of sleep, and periods of wakefulness prior to duty periods in addition to length of shift.³ As a consequence, nighttime shifts are shorter than those during the day, and the number of consecutive night duty periods are restricted, with specific rest requirements before and after the shift in order to reduce the accumulated sleep deficit.⁴ In the study by Afessa et al.,¹ the shift pattern, and in particular working four consecutive 14-h night shifts, may abrogate the potential benefits of a shift system on patient outcome.

Another possible reason why there was no demonstrable improvement in mortality or length of stay may have been the population of staff chosen for the implementation of a shift system. It seems more probable that the work patterns of senior doctors would be expected to have greater influence on patient outcomes than those of trainees. It is well-recognized that staffing ICUs with intensivists reduces morbidity, mortality, and costs.⁵ Unfortunately, in the United States a shortage of intensivists precludes the widespread adoption of this model of care.⁶ One solution, which increases senior input, is the development of teledermene⁷; but this is unlikely to ever be the equivalent of the “hands-on” presence of an intensivist at the patient’s bedside. In

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