

What is the normal resting cardiac index in human beings? This is a seemingly simple and yet important question for intensivists, who often reference their haemodynamic target to normal values. As readers will discover in this issue of *Critical Care and Resuscitation*, however, our knowledge leaves much to be desired.¹ Pressure support ventilation is commonly applied to intensive care unit (ICU) patients in Australia and New Zealand, but very little is known about its current practice. The article by Al-Bassam and colleagues² and the accompanying editorial³ highlight how stereotypical its prescription remains, and the fact that “likely overassistance” may be pervasive and inappropriately large tidal volumes are frequent. This is despite the ease of calculating the desirable tidal volume value, as nicely shown by O’Brien et al.⁴ The Australian and New Zealand ICU community needs to think about pressure support ventilation more carefully and design and conduct research to optimise its use. Likewise, modifications to predefined rapid response team calling criteria may also be common in Australia and New Zealand, despite clear evidence for using such criteria in the first place. If so, such modifications are misguided and dangerous, as shown by Chalwin and colleagues.⁵

Vitamin D therapy remains an unfulfilled promise and an area of controversy. The article by Viglianti et al,⁶ within the limitations of an observational study, creates further uncertainty about the meaning of vitamin D levels and vitamin D supplementation in ICU patients. Similarly, the article by Dalic and colleagues⁷ challenges the prognostic value of early electroencephalography in the setting of hypoxic cerebral injury, even in the presence of malignant patterns and myoclonus.

Practice variation remains very high in Australian and New Zealand critical care, even for relatively homogenous conditions such as severe asthma, as shown by Secombe and colleagues.⁸ This variability provides ample opportunity to study specific interventions and, at the very least, to improve the proportion of such patients discharged with an asthma management plan and relevant education.

Improving the way future intensivists are examined by the College may help establish a better selected cohort of future clinicians. In this issue, Karcher⁹ reviews the forthcoming changes in the way the written examination will be set and assessed beginning in 2019, in order to attenuate changes in difficulty and arbitrary cut-off criteria. This article is mandatory reading for all College examiners and trainees.

Finally, randomised controlled trials remain the foundation of clinical practice and CCR continues to focus on key aspects of methodology and conduct. In this regard, the BLING III investigators¹⁰ provide a detailed description of what will be the largest antibiotic trial ever attempted. The trial is now under way and many units in Australia and New Zealand are actively recruiting patients for what will be a pivotal trial in critical care medicine. Similarly, both the TAME and TTM2 trials are now under way. Their co-enrolment raises an important issue in relation to how carbon dioxide should be estimated in the setting of hypothermia and whether there is a dominant accepted practice in this regard (α -stat or pH-stat).¹¹ As the study by Eastwood and colleagues¹¹ shows, practice variation is rife in this aspect of patient management as well. However, the preferred approach seems to be α -stat. Accordingly, both trials are using it to guide practice and maintain uniformity and reproducibility in the setting of blood gas targets for patients with cardiac arrest admitted to the ICU.

Once again, in this issue, CCR holds the mirror for Australian and New Zealand intensivists to look at themselves and reflect on their practice, and provides both new evidence to inform such reflections and an update on progress in the kind of trial medicine that will shape its future.

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