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## ICU Volume 12 - Issue 1 - Spring 2012 - Editorial

### The Perfect ICU

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A disheartening moment in any medical department, particularly in the critical arena, is that of unforeseen human error leading to injury. With teams doing their utmost to ensure the best chances of survival for patients, the inevitability of occasional mistakes occurring in what is an immensely complex system is a distressing concept to shoulder. The emphasis here is that these events should occur rarely; thus, whatever can be done to mitigate them has become a significant focus of research and development.

Increasing quality of care and the effectiveness of the ICU is recognised to be as important as the elected treatment for individual patients. Even mistakes that appear insignificant can influence the entire process, adversely affect a patient, and sometimes result in dire consequences. A prominent view is that many errors that occur could be avoided; therefore, new approaches to management and reorganised structures have finally begun to surface in ways that could bring ICUs to function at their optimal performance.

In this issue of ICU Management, Dr. Ken Catchpole and his team provide us with a detailed overview of their response to research that showed a surprising frequency of accidental injury in healthcare. They explain the ways in which the team at Great Ormond Street Hospital adapted the efficient processes of Formula 1 pit stops to apply to ICU handovers, and they share the challenges they faced. As in any change process, some degree of resistance was experienced and authors describe the people-centred approach that was taken to foster buy-in to the modifications.

Both ICU staff members and patients are important in formulating a successful change process, something which Drs. Jozef Kesecioglu and Margriet Schneider have explored in great detail. Their case study of patient- (and family-) centred care, matched with functionality, safety and innovation is inspirational, impelling change in all areas of the ICU. Whether there is in fact such a thing as the perfect ICU, is an idea that Ed Matthews and Gianpaolo Fusari refer to in their piece that explores the transferral of ambulance design innovation into the ICU, or ambulances, adopting efficient processes can help to improve the ICU.

To begin our Nutrition series, Dr. Daren Heyland and Dr. Emma Ridley, with their team of specialists, describe methods by which provision of nutrition therapy to critically ill patients may be improved. In doing so they brief us on lessons that have been learnt from the International Nutrition Survey and the Best of the Best awards, and how recognition and reward programmes can play a part in raising standards. Dr. Ludvine Soguel is part of a professional trio who zone in more specifically on the role of the ICU dietitian, highlighting the integration that is required to become an efficient dietitian in the intensive care field.

Previously we were introduced to the topic of non-invasive helmet ventilation and its clinical applications, whereas in this issue we investigate the innovative field further. Dr. Fabrizio Racca leads a team who provide recommendations on helmet use along with advantages and disadvantages that should be recognised. Our Matrix section then leads on to another stimulating article, explaining the potential detrimental side effects of fluid overload. Within their report, Dr. Manu Malbrain and Dr. Niels Van Regenmortel indicate that a variety of strategies are available to the clinician to reduce the volume of crystalloid resuscitation utilised while restoring macro- and microcirculatory flow. Finally, Dr. Mary Seddon delivers a detailed methodology of the multi-faceted quality improvement programme that was implemented in the ICU of New Zealand's Middlemore Hospital to reduce incidents of Central Line Associated Bacteraemia (CLAB), including how a clinician buy-in was forged.

A hot topic in the current arena is acute kidney injury (AKI), with new guidelines from Kidney Disease: Improving Global Outcomes (KDIGO) having been published in March. The emerging consensus of AKI is tackled by Drs. John Kellum, Claudio Ronco and Michael Joannidis in our Viewpoints section, delivering an esteemed update. This is followed by a descriptive article from Prof. Jukka Takala, which emphasises past challenges that have helped ICU's foster improvements, ranging from those in personnel, to those in technology, and material resources.

The issue is rounded off with an overview of the Dutch healthcare system, with a focus on intensive care. The Dutch Society of Intensive Care celebrates its 35th anniversary this year, inspiring a summary of past achievements and evolution to the present day from Dr. Peter de Feiter and his colleagues.

Past challenges and an enhanced culture of continuous improvement in all areas of the ICU have not only helped to innovate treatments provided to patients, but have improved management processes, reducing dire errors, and helping to create a more tranquil and beneficial atmosphere in the critical care department. The learning curve has been further boosted by the more broadly accepted notion that methods from other countries as well as diverse professional fields can help in improving the effectiveness of ICU's and thus the wellbeing of their patients.

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