

---

## ICU Volume 14 - Issue 1 - Spring 2014 - Editorial

### Organisation & Design



**Prof Jean-Louis Vincent, MD,  
PhD**

Editor-in-Chief, ICU Management  
& Practice

\*\*\*\*\*@\*\*\*icu-management.org

Professor - Department of  
Intensive Care Erasme Hospital  
Université libre de Bruxelles  
Brussels, Belgium

[LinkedIn](#) [Twitter](#)

---

Is there such a thing as a perfect ICU? Organisation and design of the ICU has evolved exponentially since the first units delivering intensive care were set up in the 1950s. Organisation and design of the perfect ICU involves many factors – architecture, equipment and technology, staffing, patients and families. In our cover story this issue we include two articles, which suggest there is much still to be done in improving ICUs. High reliability organisations apply systems engineering in industries requiring minimal errors, such as aviation and nuclear power. In the first article, Alan D. Ravitz, Peter J. Pronovost and Adam Sapirstein describe the application of systems engineering in healthcare, and outline the elements of their plan to integrate the subsystems comprising ICU care to create a system of systems in order to reduce error and improve efficiency. Secondly, Pronovost and colleagues describe the process and results of a workshop, which aimed to think ‘outside the box’ to design an ideal ICU.

In the first Matrix feature Federico Longhini and colleagues examine the issue of patient-ventilator asynchrony, which occurs more frequently than previously thought. Next, James Krinsley considers what has been learned about glycaemic control since NICE-SUGAR, and focuses on the independent association of three domains of glycaemic control on mortality, the possible emergence of a fourth domain, glucose complexity, the relationship of diabetic status to the domains of glycaemic control and issues relating to monitoring frequency. Initiating ECMO before transfer to tertiary centres greatly improves survival. Alain Combes and Guillaume Lebreton review the advantages and logistics of ECMO retrieval, which has even been performed between the French Caribbean and Paris. They reiterate the importance of establishing networks of hospitals with standardised protocols.

Anthony McLean explains how to implement an echocardiography service in the ICU. Factors to consider include machine selection, acquisition and maintenance, image acquisition and archiving, and training. In the last article in the Matrix section, Emanuel Rivers puts forward his views on critical care in the emergency department.

In the Management section, the area of focus is lean methodology. Sarah Clark and Gary Masterson explain how the methodology can be used in critical care medicine, and give examples of the methodology in action.

Our interview for this issue is with Jerry Nolan, Consultant in Anaesthesia and Intensive Care Medicine at the Royal United Hospital, Bath in the UK. Nolan is Vice Chairman of the European Resuscitation Council and was coeditor of the European Resuscitation Council Guidelines for Resuscitation 2010. In this interview he considers current challenges in resuscitation and priorities for research.

Our country focus this issue visits the Antipodes. Ross Freebairn outlines the new College of Intensive Care Medicine training programme for critical care physicians. David Pilcher, Peter Hicks and Sue Hucksion explain how intensive care registries in Australia and New Zealand operate and what the data shows.

As always, if you would like to get in touch, please email [editorial@icu-management.org](mailto:editorial@icu-management.org).

© For personal and private use only. Reproduction must be permitted by the copyright holder. Email to [copyright@mindbyte.eu](mailto:copyright@mindbyte.eu).

