

# Content

<b>Improving safety in intensive care – What does it mean? _____</b>	<b>1</b>
<i>Rui P. Moreno and Andrew Rhodes</i>	
<b>A. Safety in Intensive Care Medicine _____</b>	<b>7</b>
<b>Current definitions of patient safety _____</b>	<b>9</b>
<i>Márcio Soares, Jorge I. F. Salluh and Fernando A. Bozza</i>	
<b>How unsafe is my ICU? _____</b>	<b>19</b>
<i>Maité Garrouste-Orgeas, Alexis Tabah, Lilia Soufir, Carole Schwebel and Jean-François Timsit</i>	
<b>Patient safety – What we have learned over the past years _____</b>	<b>31</b>
<i>Andreas Valentin</i>	
<b>Building a safety culture within the ICU _____</b>	<b>39</b>
<i>Yael Livne and Yoel Donchin</i>	
<b>Shall we publish our error rates? _____</b>	<b>47</b>
<i>José Fragata</i>	
<b>Moving from safe ICUs to safe systems _____</b>	<b>57</b>
<i>Ken Hillman, Jack Chen, Jeffrey Braithwaite and Enrico Coiera</i>	
<b>B. Decision making _____</b>	<b>65</b>
<b>Risk/benefit ratios in critical care decisions _____</b>	<b>67</b>
<i>Jean-Louis Vincent, Diamantino Salgado and Charalampos Pierrakos</i>	
<b>Safe triage decision _____</b>	<b>77</b>
<i>Ariane Boumendil and Bertrand Guidet</i>	
<b>C. Culture and behaviour _____</b>	<b>85</b>
<b>The importance of ICU culture _____</b>	<b>87</b>
<i>Hans Flaatten</i>	
<b>Training teamwork using simulation _____</b>	<b>93</b>
<i>Guttorm Brattebø</i>	

<b>Efficacy versus efficiency – A safety issue</b> _____	<b>103</b>
<i>Rui P. Moreno and Andrew Rhodes</i>	
<b>Identifying barriers to change – The gap between perception and practice</b> _____	<b>109</b>
<i>Jürgen Graf, Elke Roeb and Uwe Janssens</i>	
<b>To err is human. But how to communicate these errors to patients and family?</b> _____	<b>119</b>
<i>Ellen G.M. Smit and Armand R.J. Girbes</i>	
<b>D. Structure and processes</b> _____	<b>125</b>
<b>Quality in critical care</b> _____	<b>127</b>
<i>Antoine Pronovost and Gordon D. Rubenfeld</i>	
<b>Outcome-based benchmarking in the ICU Part I: Statistical tools for the creation and validation of severity scores</b> _____	<b>141</b>
<i>Daniele Poole and Guido Bertolini</i>	
<b>Outcome-based benchmarking in the ICU Part II: Use and limitations of severity scores in critical care</b> _____	<b>151</b>
<i>Daniele Poole and Guido Bertolini</i>	
<b>Volume and outcome in intensive care</b> _____	<b>161</b>
<i>Jeremy M. Kahn</i>	
<b>Documenting care in the ICU – An expert witness view</b> _____	<b>171</b>
<i>Ruth Endacott</i>	
<b>Open versus closed units</b> _____	<b>177</b>
<i>Maurizia Capuzzo, Andreas Valentin and Raffaele Alvisi</i>	
<b>Quality and safety in critical care: Rapid response, medical emergency or outreach teams?</b> _____	<b>189</b>
<i>Brian H. Cuthbertson and Paul Holder</i>	
<b>E. Protocolised medicine</b> _____	<b>199</b>
<b>Should care be homogenised?</b> _____	<b>201</b>
<i>Mervyn Singer</i>	
<b>Implementing the state of the art – Sepsis bundles</b> _____	<b>211</b>
<i>Ricard Ferrer, Ana Navas, Maria Luisa Martinez and Antonio Artigas</i>	
<b>Guidelines have done more harm than good</b> _____	<b>219</b>
<i>Richard Amerling, Nikolas Harbord, James F. Winchester, Zaccaria Ricci and Claudio Ronco</i>	

Do nurse-led protocols reduce intensive care unit stay? _____	225
<i>Wendy Chaboyer and Leanne M. Aitken</i>	
Developing guidelines – The example of the Surviving Sepsis Campaign _____	237
<i>Eliezer Silva and Diogo Diniz Gomes Bugano</i>	
Protocolised sedation to improve outcomes _____	249
<i>Michael H. Hooper and Timothy D. Girard</i>	
Protocolised approach to the post-surgical patient improves outcome _____	261
<i>Simeon West, Raha Rahman West and Andrew Rhodes</i>	
Electronic Prescribing: Can it reduce error? _____	267
<i>Kirsten Colpaert and Johan Decruyenaere</i>	
F. First do no harm _____	277
Does pharmacokinetics impact on clinical practice? _____	279
<i>João Gonçalves Pereira</i>	
Avoiding toxicity of antibiotics _____	291
<i>Julie M. Varghese, Jason A. Roberts and Jeffrey Lipman</i>	
Frequently forgotten factors in empirical antibiotic treatment _____	305
<i>Marta Ulldemolins, Thiago Lisboa and Jordi Rello</i>	
Primum non nocere: Avoiding harm during mechanical ventilation _____	315
<i>Oscar Peñuelas, Fernando Frutos-Vivar and Andres Esteban</i>	
Avoiding harm in fluid resuscitation: Emerging evidence for the toxicity of synthetic colloids in critically ill patients _____	327
<i>Christiane Hartog, Michael Bauer and Konrad Reinhart</i>	
Avoiding harm in metabolic management _____	341
<i>Frank M. Brunkhorst</i>	
Avoiding harm in cardiovascular care _____	349
<i>Elias Knobel, Márcia Makdisse and Marcos Knobel</i>	
Avoiding harm in acute renal failure _____	361
<i>Heleen M. Oudemans-van Straaten</i>	
Avoiding harm in neurocritical care _____	371
<i>Barbara Volpe, Ross Paterson and Peter J. D. Andrews</i>	
Avoiding harm in CPR _____	385
<i>Andreas Schneider, Peter Teschendorf and Bernd W. Böttiger</i>	

<b>Avoiding harm after cardiac surgery</b> _____	<b>393</b>
<i>Luiz Francisco Poli-de-Figueiredo, Alexandre Biasi Cavalcanti, Américo Lourenço Cuvello Neto and Carlos Eduardo Pompilio</i>	
<b>Avoiding harm during intra- and inter-hospital transport</b> _____	<b>405</b>
<i>Antonio Marques</i>	
<b>How do you safely mobilise your intubated and ventilated patient?</b> _____	<b>419</b>
<i>George Ntoumenopoulos</i>	
<b>G. Safety during technical support</b> _____	<b>431</b>
<b>Patient safety and physiological monitoring</b> _____	<b>433</b>
<i>Gayathri Satkurunath, Andrew Rhodes and Maurizio Cecconi</i>	
<b>Patient safety and respiratory support</b> _____	<b>441</b>
<i>Christian Putensen, Nils Theuerkauf, Thomas Muders, Hermann Wrigge and Ulf Günther</i>	
<b>Patient safety during continuous renal replacement therapy</b> _____	<b>455</b>
<i>A.B. Johan Groeneveld, S. Azam Nurmohamed and Catherine S.C. Bouman</i>	
<b>Patient safety and infusion technology</b> _____	<b>461</b>
<i>Sophie Lorent and Daniel De Backer</i>	
<b>Patient safety and health informatics</b> _____	<b>467</b>
<i>Carl S. Waldmann, Michael Imhoff and G. Daniel Martich</i>	
<b>Pulmonary artery catheter: Balance between safe and optimal use</b> _____	<b>475</b>
<i>Jean-Louis Teboul, Xavier Monnet and Christian Richard</i>	
<b>H. Training, teaching, and education</b> _____	<b>485</b>
<b>Approaches to improving the reliability and safety of patient care</b> _____	<b>487</b>
<i>Julian F. Bion</i>	
<b>Core curriculum and competencies for advanced training in neurocritical care – The American way</b> _	<b>497</b>
<i>Fred Rincon, Neeraj Badjatia and Stephan A. Mayer</i>	
<b>I. Risk management</b> _____	<b>503</b>
<b>Measuring the impact of Patient Safety Programmes: The Value of Process and Outcome Evaluation</b> _____	<b>505</b>
<i>Colin R. Cooke and J. Randall Curtis</i>	

<b>Risk adjustment in neurocritical care (the RAIN study)</b> _____	<b>517</b>
<i>David A. Harrison and David K. Menon</i>	
<b>Applying the results of a randomised controlled trial: Caveat emptor</b> _____	<b>527</b>
<i>Peter C. Minneci, Katherine J. Deans and Charles Natanson</i>	
<b>J. Ethical issues</b> _____	<b>537</b>
<b>Protecting the patients, supporting the investigators, transparency for the public – The role of research ethics committees</b> _____	<b>539</b>
<i>Christiane Druml</i>	
<b>Performing safe and timely identification of the organ donor</b> _____	<b>547</b>
<i>Jose-Maria Dominguez-Roldan, Claudio Garcia-Alfaro and Fernando Hernandez-Hazañas</i>	
<b>K. Future approaches</b> _____	<b>557</b>
<b>Theragnostics: Change we can believe in!</b> _____	<b>559</b>
<i>Guillaume Dubreuil, David Grimaldi, Nicholas Heming and Jean-Paul Mira</i>	