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Cardiac Arrest

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The “chain of survival” metaphor for improving outcomes from sudden cardiac arrest (CA) was first coined in the 1980s. Since adopted by the American Heart Association and the International Liaison Committee on Resuscitation amongst others, it is a useful tool to concentrate efforts on how to optimise every link in the chain to improve survival and neurologically intact outcomes for CA patients. Mortality from out-of-hospital cardiac arrest (and indeed in-hospital) is still stubbornly high. Can we do better? At the “macro” level, initiatives to train lay people to perform cardiopulmonary resuscitation (CPR) will improve bystander resuscitation rates. Technology, such as apps to help bystanders locate automated external defibrillators, will also play a part. Organisational efforts, such as the “shock lab” at my own institution, bring together teams of emergency and intensive care medicine to optimise care. In other countries, intensivists go into the field to provide prehospital care. In our cover story we consider several elements in the chain of survival.

Jerry Nolan summarises the advances made in improving the outcomes of cardiac arrest over the last 10-15 years—no longer is treatment an “exercise in futility”. Next, Simon Schmidbauer and Hans Friberg outline the factors for improving prehospital care, namely the roles of first responders, emergency medical services and the importance of termination of resuscitation rules.

Martin Dünser and Daniel Dankl examine the pragmatic criteria for extracorporeal cardiopulmonary resuscitation, and note that it should only be used in carefully selected patients. Next, Glenn Eastwood and Rinaldo Bellomo, who are leading the Targeted Therapeutic Mild Hypercapnia After Resuscitated Cardiac Arrest (TAME) trial, explain the background, the rationale and the trial design. A poor neurologic outcome unfortunately is noted in a high percentage of survivors. Mena Farag and Shashank Patil review the latest evidence on prognostication and key principles in following a prognostication strategy.

David Kloeck, Peter Meaney and Walter Kloeck observe that international recommendations on CA often require adaptation due to cost or therapy. Particularly in South Africa, resuscitation training, adapted to local conditions, has increasingly been made available. Last, Hans van Schuppen makes the case for debriefing after resuscitation.

While airway pressure release ventilation has been available on ventilators for some time, evidence for its use in patients with ARDS is still lacking accumulated evidence from randomised controlled trials. In the Matrix section, Brian O’Gara and Daniel Talmor summarise the benefits and limitations of the technique and review the evidence supporting its use. Next, Daniel Martin and Helen McKenna describe how high altitude research is relevant to critical illness. In the Management section Katherine Nugent and Craig Coopersmith begin by explaining the core principles of rounds, as well as who should be included, how to structure, how to optimise communication and accommodate the needs of learners. “Rounds should be enjoyable—and even fun—if at all possible”, they conclude. We are pleased to include a patient’s perspective in this issue. Eileen Rubin writes about her experiences of critical illness, its effect on her and her family, and her motivation to co-found the ARDS Foundation.

The European Society of Anaesthesiology (ESA) has an active network for trainees. Three trainees, Mihai tefan, Liana V leanu and Diogo Sobreira Fernandes, Chair of the ESA Trainee Committee, write about the goals of the network. A recent survey highlighted the heterogeneity of anaesthesiology training in Europe, as well as a keen interest in intensive care medicine.

What does your difficult airway trolley look like? Jonathan Gatward describes the trolley in use at Royal North Shore Hospital in Sydney, Australia, a design standardised across the emergency and operating departments and the ICU. Last, our sister journal, HealthManagement.org The Journal, recently published a cover story on value-based healthcare. Michelle Fakkert, Fred Van Eenennaam, Vincent Wiersma explain five points that show how VBHC can provide a common language for all stakeholders in healthcare.

This issue we have the bonus of two interviews with experts. John West is often described as the guru of hypoxia. We are delighted to bring you an interview, in which he talks about his discoveries, his serendipitous career, the promise of oxygen conditioning and why the avian lung is better than the human lung.

Research into organisational aspects of intensive care has yielded many important insights into improving outcomes. Jeremy Kahn is a leader in this field and shares his thoughts next.

We visit Tunisia for our Country Focus. Lamia Ouanes- Besbes, Mustapha Ferjani and Fekri Abroug write frankly about the issues facing the intensive care specialty in their country and outside, as there is a brain drain of specialists. Intensivists and anaesthesiologists gather at Euroanaesthesia in Geneva this month, and will be joined by the ICU Management & Practice team. We hope to meet you there! As always, if you would like to get in touch, please email **JLVincent@icu-management.org**

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