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<p>This article reviews the development of early ideas regarding the origins and pathogenesis of shock. The early history of shock is related primarily to traumatic shock. More recent history centers on differentiation of clinical syndromes and individual characteristics. Definitions, classification systems, pathogenic theories, and treatments have evolved. Progress has been aided by constant development of improved assessment technologies. Today, shock is not a single syndrome and the definition of shock no longer is descriptive in nature. The most accepted current definition involves an oxygen supply/demand imbalance that can have various causes—hypovolemia, cardiac dysfunction, vascular failure, or obstructive processes.</p>	
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<p>Over the course of history, while the underlying causes for wars have remained few, mechanisms of inflicting injury and our ability to treat the consequent wounds have dramatically changed. Success rates in treating war-related injuries have improved greatly, although the course of progress has not proceeded linearly. From Homer's <i>Iliad</i> to the Civil War to Vietnam, there have been significant improvements in mortality, despite a concurrent increase in the lethality of weapons. These improvements have occurred primarily as a result of progress in three key areas: management of wounds, treatment of shock, and systems of organization.</p>	
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<p>Disasters come in all shapes and forms, and in varying magnitudes and intensities. Nevertheless, they offer many of the same lessons for critical care practitioners and responders. Among these, the most important is that well thought out risk assessment and focused planning are vital. Such assessment and planning require proper training for providers to recognize and treat injury from disaster, while maintaining safety for themselves and others. This article discusses risk assessment and planning in the context of disasters. The article also elaborates on the progress toward the creation of portable, credible, sustainable, and sophisticated critical care outside the walls of an intensive care unit. Finally, the article summarizes yields from military-civilian collaboration in disaster planning and response.</p>	

Plagues in the ICU: A Brief History of Community-Acquired Epidemic and Endemic Transmissible Infections Leading to Intensive Care Admission 67

R. Bruce Light

The ability to diagnose and treat infectious diseases and handle infectious disease outbreaks continues to improve. For the most part, the major plagues of antiquity remain historical footnotes, yet, despite many advances, there is clear evidence that major pandemic illness is always just one outbreak away. In addition to the HIV pandemic, the smaller epidemic outbreaks of Legionnaire's disease, hantavirus pulmonary syndrome, and severe acute respiratory syndrome, among many others, points out the potential risk associated with a lack of preplanning and preparedness. Although pandemic influenza is at the top of the list when discussing possible future major infectious disease outbreaks, the truth is that the identity of the next major pandemic pathogen cannot be predicted with any accuracy. We can only hope that general preparedness and the lessons learned from previous outbreaks suffice.

Sepsis and Septic Shock: A History 83

Duane J. Funk, Joseph E. Parillo, and Anand Kumar

Infectious disease has been a leading cause of death in humans since the first recorded tabulations. From Hippocrates and Galen, to Lister, Fleming and Semmelweiss, this article reviews the notable historical figures of sepsis research. The early descriptions and theories about the etiology (microbial pathogens), pathogenesis (toxins and mediators), and treatment of sepsis-associated disease are also discussed.

Cardiogenic Shock: A Historical Perspective 103

Fredric Ginsberg and Joseph E. Parrillo

Significant progress has been made over the past 60 years in defining and recognizing cardiogenic shock (CS), and there have been tremendous advances in the care of patients who have this illness. Although there are many causes of this condition, acute myocardial infarction with loss of a large amount of functioning myocardium is the most frequent cause. It was recognized early in the study of CS that prompt diagnosis and rapid initiation of therapy could improve the prognosis, and this remains true today. Although the mortality from CS remains high, especially in elderly populations, modern therapies improve the chance of survival from this critical illness.

A History of Pulmonary Embolism and Deep Venous Thrombosis 115

Kenneth E. Wood

Although enormous progress has been made in understanding the physiology of pulmonary embolism, developing new diagnostic modalities and strategies, and constant refinement in the use of heparin therapy and thrombolytic therapy, venous thromboembolism remains a common and lethal process. As the history of this disease illustrates, advances continue to be made and it is anticipated that with newer diagnostic studies and anticoagulants under development, diagnosis and treatment of pulmonary embolism will continue to improve.

- Cardiopulmonary Resuscitation: From the Beginning to the Present Day** 133
Giuseppe Ristagno, Wanchun Tang, and Max Harry Weil
- Cardiac arrest represents a dramatic event that can occur suddenly and often without premonitory signs, characterized by sudden loss of consciousness and breathing after cardiac output ceases and both coronary and cerebral blood flows stop. Restarting of the blood flow by cardiopulmonary resuscitation potentially re-establishes some cardiac output and organ blood flows. This article summarizes the major events that encompass the history of cardiopulmonary resuscitation, beginning with ancient history and evolving into the current American Heart Association's commitment to save hearts.
- Historical Aspects of Critical Care and the Nervous System** 153
Thomas P. Bleck
- The appropriate starting point for a history of neurocritical care is a matter of debate, and the organization of facts and conjectures about it must be somewhat arbitrary. Intensive care for neurosurgical patients dates back to the work of Walter Dandy at the Johns Hopkins Hospital in the 1930s; many consider his creation of a special unit for their postoperative care to be the first real ICU. The genesis of neurocritical care begins in prehistory, however. This article gives a predominantly North American history, with some brief forays into the rest of the world community of neurointensivists.
- History of Solid Organ Transplantation and Organ Donation** 165
Peter K. Linden
- Solid organ transplantation is one of the most remarkable and dramatic therapeutic advances in medicine during the past 60 years. This field has progressed initially from what can accurately be termed a "clinical experiment" to routine and reliable practice, which has proven to be clinically effective, life-saving and cost-effective. This remarkable evolution stems from a serial confluence of: cultural acceptance; legal and political evolution to facilitate organ donation, procurement and allocation; technical and cognitive advances in organ preservation, surgery, immunology, immunosuppression; and management of infectious diseases. Some of the major milestones of this multidisciplinary clinical science are reviewed in this article.
- History of Technology in the Intensive Care Unit** 185
Nitin Puri, Vinod Puri, and R.P Dellinger
- Critical care medicine is a young specialty and since its inception has been heavily reliant upon technology. Invasive monitoring has its humble beginnings in the continuous monitoring of heart rate and rhythm. From the development of right heart catheterization to the adaption of the echocardiogram for use in shock, intensivists have used technology to monitor hemodynamics. The care of the critically ill has been buoyed by investigators who sought to offer renal replacement therapy to unstable patients and worked to improve the monitoring of oxygen saturation. The evolution of mechanical ventilation for the critically ill embodies innumerable technological advances. More recently, critical care has insisted upon rigorous testing and cost-benefit analysis of technological advances.

Historical Perspectives in Critical Care Medicine: Blood Transfusion, Intravenous Fluids, Inotropes/Vasopressors, and Antibiotics **201**

Ryan Zarychanski, Robert E. Ariano, Bojan Paunovic, and Dean D. Bell

Significant progress in critical care medicine has been the result of tireless observation, dedicated research, and well-timed serendipity. This article provides a historical perspective for four meaningful therapies in critical care medicine: blood transfusion, fluid resuscitation, vasopressor/inotropic support, and antibiotics. For each therapy, key discoveries and events that have shaped medical history and helped define current practice are discussed. Prominent medical and social pressures that have catalyzed research and innovation in each domain are also addressed, as well as current and future challenges.

A History of Ethics and Law in the Intensive Care Unit **221**

John M. Luce and Douglas B. White

Because they provide potential benefit at great personal and public cost, the intensive care unit (ICU) and the interventions rendered therein have become symbols of both the promise and the limitations of medical technology. At the same time, the ICU has served as an arena in which many of the ethical and legal dilemmas created by that technology have been defined and debated. This article outlines major events in the history of ethics and law in the ICU, covering the evolution of ICUs, ethical principles, informed consent and the law, medical decision-making, cardiopulmonary resuscitation, withholding and withdrawing life-sustaining therapy, legal cases involving life support, advance directives, prognostication, and futility and the allocation of medical resources. Advancement of the ethical principle of respect for patient autonomy in ICUs increasingly is in conflict with physicians' concern about their own prerogatives and with the just distribution of medical resources.

Evolution of the Intensive Care Unit as a Clinical Center and Critical Care Medicine as a Discipline **239**

Ake Grenvik and Michael R. Pinsky

This article discusses the history of the ICU and critical care medicine (CCM). It also discusses the certification of critical care nurses and allied health professionals, as well as CCM societies and congresses, education and board certification, evidence-based CCM, research and publications, and future challenges to the field.

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