Preface

Advances in Trauma-2016

Goal Zero Preventable Deaths After Injury

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Editor

Trauma remains the leading cause of death for individuals aged 1 to 46 years, the third leading cause of death overall, and accounts for 30% of all life-years lost, with over 190,000 lives lost annually.¹ Trauma accounts for 41 million emergency department visits and over 2 million hospital admissions annually. The economic burden of trauma is more than \$671 billion annually.² Despite an organized system of trauma care in the United States, from 2000 to 2010, the number of trauma deaths increased by 22.8% for those 25 years and older with a concurrent increase in the US population of 9.7%. The largest increase in trauma deaths was in 50- to 60-year-old individuals.³

So how can we provide optimal care to our trauma victims to ensure survival and optimal quality of life?

Standardization of evidence-based clinical care in trauma is of vital importance with a goal to improve trauma outcomes. Studies have documented low compliance rates (10%-40%) with standardized protocols in trauma. It has been confirmed that major deviations from guideline-based clinical care are associated with significantly higher mortality after injury and increased organ failure.^{4,5} Although we have standardized trauma care in the initial hour after injury with use of Advanced Trauma Life Support, there is little standardization subsequently.⁶

A new report from the National Academies of Sciences, Engineering, and Medicine (NASEM) proposes a national trauma care system integrating military and civilian trauma systems to achieve zero preventable deaths after injury.⁷ Recommendations encourage a culture of continuous learning and improvement, examination of unwarranted variation in practice, which has led to suboptimal patient outcomes, coordinated performance improvement and research to generate evidence-based best trauma care practices, structured quality improvement processes, and timely dissemination of trauma knowledge.⁸ The American College of Surgeons Committee on

Trauma and the Coalition for National Trauma Research fully supports NASEM's report and recommendations.^{9,10} We now have to work on implementation of optimal care to improve trauma outcomes.

This issue of *Critical Care Clinics* provides an overview of the significant advances that have been made in trauma care to improve outcomes. Since the last update on trauma in *Critical Care Clinics* in 2004, a lot has changed.

In this issue, leading experts provide succinct reviews of important areas in trauma resuscitation and clinical care. They review cutting edge advances and provide evidence-based recommendations for best practices in trauma care. They include references to the American College of Surgeons Trauma Quality Improvement Program Best Practice Guidelines¹¹ and provide personal insights to the care of complex and critically ill trauma victims.

I extend my deepest gratitude to our authors for their excellent contributions to this important issue on Advances in Trauma, and to Richard W. Carlson, Patrick J. Manley, and Casey Potter and the entire editorial team.

We hope that this issue of *Critical Care Clinics* will assist in timely dissemination of trauma knowledge by providing the updated evidence base to ensure optimal care to all of our trauma patients.

We have one ultimate goal: to achieve zero preventable deaths after injury.

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