



Emergency Trauma Care: Current Topics And Controversies Volume II 18 Trauma CME Credits

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Emergency Trauma Care: Current Topics And Controversies, Volume II

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Emergency Trauma Care: Current Topics And Controversies, Volume II

Product Preview Information

The information contained herein is a representative sample of the complete product, and is intended to provide a sense of the quality and comprehensive nature of the product.

This 6-chapter resource, published in October 2016, reviews aspects of emergency trauma care that you manage virtually every day: treating pain in trauma patients, managing geriatric or obese trauma patients, treating sports-related and ballistic trauma, and avoiding risk when managing trauma patients. In addition to our distinguished authors' discussions, we have included pertinent commentaries on each topic from the emergency medical services, research, surgical, legal, economic, and nursing perspectives--in an effort to give a view of all aspects of trauma care.

Included In This Book:

1. 80 pages of evidence-based content, covering 6 critical topics
2. 18 AMA PRA Category 1 CreditsTM that are trauma specific (3 CME credits per chapter)
3. Summarized information to help you keep up with current guidelines and best practices
4. Treatment recommendations to help you determine the critical actions required when caring for these patients
5. And much more!

The 6 topics covered in this volume address some of the most pressing concerns for emergency clinicians:

1. Treating Pain in Trauma
2. Ballistic Injuries
3. Sports Injuries
4. Geriatric Trauma
5. Obese Patients
6. Trauma Malpractice - Tips for Avoiding Risks

This product is available in print and online. Each order includes access to the pdf version of the book.

Emergency Trauma Care: Current Topics And Controversies, Volume II

CME Accreditation Information

This CME activity is sponsored by EB Medicine
Release Date: October 1, 2016
Date of Most Recent Review: September 20, 2016
Termination Date: October 1, 2019
Time To Complete Activity: 18 hours

This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education.

Accreditation Statement: EB Medicine is accredited by the ACCME to provide continuing medical education for physicians.

Credit Designation Statement: EB Medicine designates this enduring material for a maximum of 18 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Needs Assessment: The need for this educational activity was determined by a survey of medical staff; review of morbidity and mortality data from the CDC, AHA, and NCHS; evaluation of prior activities for emergency medicine clinicians, physician surveys, meetings with board-certified physicians, and attendance at annual conferences.

Goals: The goal of this activity is to increase clinician competency in various trauma settings, including pain management, ballistic injuries, sports injuries, geriatric trauma, and trauma in obese patients, as well as to address malpractice in trauma.

Learning Objectives: At the conclusion of this CME activity, you should be able to:

1. Apply methods of pain management in trauma care.
2. Explain the physiological reactions that occur from ballistic injuries and appropriate methods of management.
3. Assess and manage trauma from various sports injuries.
4. Describe the approach to management of geriatric patients, taking into account comorbidities and differences in physiology, and discuss methods of complication prevention.
5. Review the considerations in managing obese patients who have undergone a trauma.
6. Discuss the factors affecting malpractice cases for care in the emergency department.

Target Audience: This enduring material is designed for emergency medicine physicians, physician assistants, nurse practitioners, and residents.

Course Director: **Andy Jagoda, MD, FACEP**, Professor and Chair, Department of Emergency Medicine, Icahn School of Medicine at Mount Sinai, Medical Director, Mount Sinai Hospital, New York, NY

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Commercial Support: This activity received no commercial support.

Method of Participation: Read the printed material and complete the CME Answer And Evaluation Form on page 87 or online at www.ebmedicine.net/EMTraumaCareVol2.

You may also scan the QR code below with an enabled device to take the CME test. Note that the entire test does not have to be completed at one time; you may stop at any point and the questions correctly answered will be saved, but the CME credit certificate will not be issued until all questions have been answered.



Hardware/Software Requirements: You will need a PC or Macintosh to access the PDF online and complete the online CME test.

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Welcome to Volume II of EB Medicine's newest specialized Trauma resource, *Emergency Trauma Care: Current Topics And Controversies*. We hope that the six chapters in this book will help you and your fellow emergency clinicians stay abreast of some of the most important aspects of emergency trauma care that you manage every day: ballistic injuries, geriatric trauma, trauma in obese patients, sports injuries, and pain management, as well as malpractice in trauma. In addition to our distinguished authors' discussions, we have included pertinent commentaries from the emergency medical services, nursing, medical legal, and surgical perspectives, in an effort to give a view of all aspects of trauma care. Thanks to all of our authors, reviewers, and contributors for giving their time and talents to develop this resource for emergency clinicians.

I would like to thank my family, Lisa, Giselle, and Jack for their constant support, and my mother and my father, who would have really enjoyed reading this book. I want to recognize all my colleagues: physicians, nurses, technicians, medics, and consultants, who help take such great care of trauma patients every day.

Eric Legome

I would like to thank my wife, Ann, my two daughters, Dori and Darby, and my new son-in-law, Alex, for all their support and encouragement. I am so proud of you. I would also like to thank the physicians, nurses, and emergency workers who have dedicated themselves to the care of trauma patients. You are truly the unsung heroes.

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**The following pages contain a preview page
from each chapter in addition to a detailed outline
of the content covered.**

Acute Pain In Trauma: Effective Management Techniques

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Introduction

Prompt, effective pain management after a patient sustains acute trauma reduces the negative physiologic and psychological consequences of trauma.¹ Unfortunately, failure to prioritize pain treatment due to a lack of necessary resources or training, or even understanding its importance, is all too common.²⁻⁵ The consequences of leaving pain untreated or undertreated are outlined in **Table 1**.

This chapter will provide a guide to the practical application of multimodal analgesia for the trauma patient in the emergency department (ED). This includes integration of diverse interventions, from opioids, ketamine, nonsteroidal anti-inflammatory drugs (NSAIDs), anxiolytics, and regional anesthesia to provide effective ED pain management for the trauma patient. Though not discussed here, other modalities include cognitive behavioral therapy,

topical medications, cryotherapy, and acupuncture.

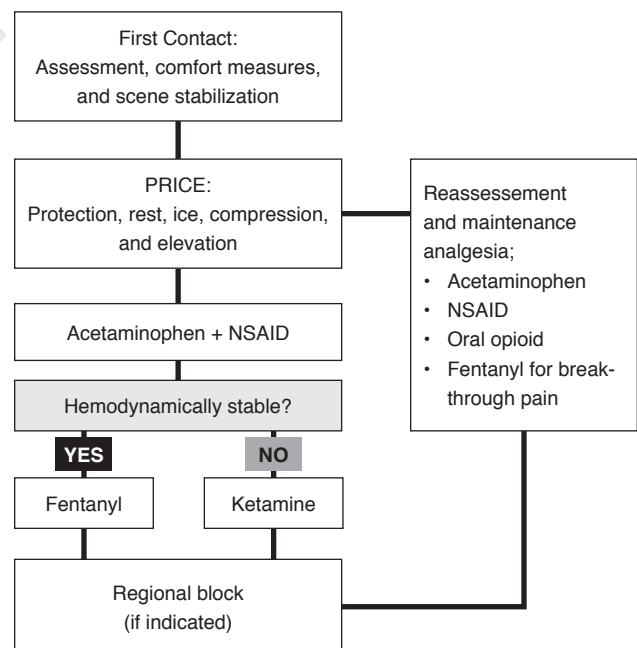
The essential components of trauma pain management include: (1) integration of a pain assessment and treatment at first contact with the trauma patient, (2) utilization of a synergistic combination of complementary analgesic drugs and modalities, (3) application of regional anesthesia whenever appropriate, and (4) attention to associated symptoms such as nausea and anxiety.⁶⁻⁸ In contrast to traditional approaches that are overly reliant on opioids, the contemporary strategy relies on multiple interventions that work synergistically to alleviate pain and minimize the adverse effects of any one medication. Utilization of a diverse combination of pharmaceutical, psychological, interventional, and complementary strategies is termed multimodal analgesia.^{6,9-12} **Figure 1** outlines basic steps in pain management.

Table 1. Consequences Of Untreated Or Undertreated Pain

Subjective Patient Experience
• Suffering • Demoralization
Detrimental Physiologic Effects
• Systemic stress response • Immunosuppression • Delirium • Hyperglycemia • Protein catabolism • Decreased myocardial contractility • Increased myocardial oxygen demand • Impaired vasodilation • Hypercoagulability/thromboembolism • Increased risk of chronic pain
Increased Risk for Long-Term Psychological Disorders
• Depression • Posttraumatic stress disorder • Anxiety • Insomnia
Increased Healthcare Resource Utilization
• Prolonged hospital stay • Decreased participation in rehabilitation

This table was published in *Auerbach's Wilderness Medicine*, 7th Edition, Paul Auerbach, Tracy Cushing, N. Stuart Harris, Andrew Herring, Copyright Elsevier 2016.

Figure 1. Basic Approach To Treatment Of Pain Associated With Traumatic Injury



Abbreviation: NSAID, nonsteroidal anti-inflammatory drug.

This figure was published in *Auerbach's Wilderness Medicine*, 7th Edition, Paul Auerbach, Tracy Cushing, N. Stuart Harris, Andrew Herring, Copyright Elsevier 2016.

Acute Pain In Trauma: Effective Management Techniques

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Ballistic Trauma: A Primer For The Emergency Clinician

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Introduction

Emergency medical services (EMS) personnel, emergency department (ED) staff, emergency clinicians, and trauma surgeons are typically the first to care for patients injured by ballistic weapons. Knowledge of the physics, pathophysiology, and treatment of these injuries may improve clinical care and decrease medical legal risk.

Epidemiology

According to the United States Centers for Disease Control and Prevention, 33,636 people died from gunshot wounds in 2013. This included 11,208 homicides, with the highest rates in the 15- to 34-year age range, and 85% were male. In addition, there were 505 deaths due to accidental discharge of firearms and 21,175 suicides. For the same time period, there were 84,258 nonfatal gunshot injuries.¹

On a societal basis, however, there has been improvement. Firearm-related homicides declined 39%, from 18,253 in 1993 to 11,208 in 2013. Nonfatal firearm crimes declined 69%, from 1.5 million victimizations in 1993 to 467,300 in 2011.² In the last 50 years, the homicide rate by firearms peaked in 1980 at 10.2 per 100,000 people, and, as of 2013, was at an all-time low of 3.5/100,000.^{1,3,4}

Hospital costs for a single fatal shooting were estimated at \$14,500 in 1992 and at \$28,700 in 2010. As of 2010, gun-related violence was estimated to cost our country \$12 billion/year in hospitalizations, court costs, and insurance paid by government health programs, including \$4.2 billion in ED costs alone and an estimated \$16.6 billion for hospital admission and inpatient care.^{5,6}

Weapons And Ammunition

Handguns, rifles, and shotguns are “small arms”⁷⁻⁹ that have a handling portion (the stock), a chamber where the ammunition is seated and combustion occurs (the breech), and a barrel that acts as the guide for the projectile. The types of small arms differ in the amount of pressure the breech can resist and the length of the barrel.^{7,10}

The vast majority of gunshot wounds in the United

States are from handguns.^{1,7,8,11,12} Handguns, or pistols, are small firearms designed to be hand-held. Spiral grooves are cut into the inner barrel to impart a spin to the bullet in order to enhance in-flight stability and accuracy; this is called rifling. Typically, projectiles fired from handguns (with few exceptions) are considered to be low-velocity, and accuracy is usually limited to < 50 meters. Rifles are shoulder-fired weapons that generally have barrels > 16 inches with rifling. Most have high-velocity projectiles.^{7,8} Shotguns have barrels that are typically unrifled and thin-walled. Most shotgun ammunition is composed of spherical projectiles (1 to > 500, depending upon size) that are propelled simultaneously.^{7,8}

Modern rifle and handgun ammunition (a round or cartridge) includes the projectile, the casing, a primer, and the propellant. The caliber indicates the diameter of the bullet in inches or millimeters. The design of the ammunition (eg, pointed tips, hollow points, full metal jackets [FMJ], partial metal jackets, and scored bullets that can “expand”) can change the transfer of energy.⁷ As hollow point bullets and partially jacketed hollow point bullets penetrate tissue, the kinetic energy of the projectile forces the softer tip of the bullet to expand outward, increasing the axial diameter. This increased diameter maximizes transfer of the kinetic energy to the target and creates a larger permanent cavity with less penetration depth.^{7,8,13} Expanding bullets are designed for hunting and self-defense and are routinely used by law enforcement. Nonexpanding solid bullets have a pointed tip and an FMJ. These are used by military forces.^{7,8,14}

Shotgun ammunition typically contains spherical projectiles, called shot, housed within a shot-shell. Birdshot and buckshot differ in the size and metal of the shot. Bird shot is typically smaller and made of steel, tungsten, or bismuth. Buckshot contains fewer balls that have larger diameter and are usually made of lead, but can also be steel. Shotgun shells can also contain a slug or sabot. These are single, large, solid projectiles, typically made of lead, that may have external rifling built into the projectile or casing. These are primarily used for hunting and law enforcement where a heavy, relatively low-velocity projectile with limited range and ample stopping power is desired.^{7,8,10} While shotguns are considered low velocity, they frequently cause the most devastating injuries.

Ballistic Trauma: A Primer For The Emergency Clinicians

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Sports Injury Trauma: Management Of New Injuries And Overuse Syndromes

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Introduction

Emergency clinicians should be familiar with common sports-related syndromes and be able to differentiate these conditions from the more critical injuries associated with sports. This chapter will review the most frequently encountered injuries, concentrating on overuse syndromes, as well as new-injury patterns that may be found in the acute setting.

Epidemiology

The epidemiology of overuse conditions is difficult to quantify, as many people with such conditions do not seek medical treatment. Additionally, many of those who present to a primary care office setting are not counted among reported statistics. The statistics that are available, however, show that sports injuries make up a significant proportion of emergency department (ED) visits. For example, data from 2011 to 2012 showed that 1.35 million children (aged ≤ 18 years) sought care in an ED for sports-related injuries.¹ (See Tables 1, 2, and 3.)

The United States Consumer Product Safety Commission's National Electronic Injury Surveillance System (NEISS) data from 2012 indicate that approximately 1.9 million people were treated in the ED for sports-related conditions.² Table 4 breaks

Table 1. Incidence Of Sports-Related Injuries In 2012

Injury Type	Incidence*
Sprain/strain	451,480
Fracture	249,500
Contusion	210,640
Concussion	163,670
Other	141,330
Laceration	85,560
Dislocation	33,300

*Per 1.35 million children

Adapted from *Game Changers: Stats, Stories, and What Communities Are Doing to Protect Young Athletes*. Ferguson RW, Green A, Hansen LM. Washington, DC: Safe Kids Worldwide, August 2013. www.safekids.org.

Table 2. Anatomic Area Injured During Sports-Related Activities In 2012

Body Part	Percentage of Total Injuries
Ankles	15%
Head	14%
Fingers	12%
Knees	9%
Face	7%

Adapted from *Game Changers: Stats, Stories, and What Communities Are Doing to Protect Young Athletes*. Ferguson RW, Green A, Hansen LM. Washington, DC: Safe Kids Worldwide, August 2013. www.safekids.org.

Table 3. Injuries Seen Per Sport In 2012

Sport	Incidence*
Football	394,350
Basketball	389,610
Soccer	172,470
Baseball/softball	119,810/58,210
Volleyball	43,190
Wrestling	40,750
Cheerleading/gymnastics	37,770/28,300
Track and field	24,910

*Per 1.35 million children

Adapted from *Game Changers: Stats, Stories, and What Communities Are Doing to Protect Young Athletes*. Ferguson RW, Green A, Hansen LM. Washington, DC: Safe Kids Worldwide, August 2013. www.safekids.org.

Table 4. Injury Incidence Per Sport Among Patients Aged 25 to 40 Years In 2012

Sport	Incidence*
Bicycling	126.5
Basketball	61.2
Baseball and softball	41.3
Football	25.2
Soccer	23.8

*Per 100,000 participants

Adapted from *Common Sports Injuries: Incidence and Average Charges*. Arpit Misra, Office of the Assistant Secretary for Planning and Evaluation. 2014. Available at: https://aspe.hhs.gov/sites/default/files/pdf/76816/1b_SportsInjuries.pdf.

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Geriatric Trauma: Comprehensive Assessment And Care

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Introduction

By the year 2040, nearly 1 out of every 5 Americans will be aged ≥ 65 years.¹⁻³ Advances in health education, pharmacotherapy, and health-related technology are enabling the population to live longer and more active lives.⁴ However, trauma registry data demonstrate an increasing susceptibility to injury with age.^{5,6} According to the 2014 American College of Surgeons National Trauma Databank statistics, 28% of trauma victims were aged ≥ 65 years.⁷ Geriatric patients are projected to represent 40% of all trauma encounters by the year 2050.⁸ These elderly patients are at greater risk for adverse outcomes and are more likely to suffer long-term functional decline than their younger counterparts.⁸ Trauma is also the fifth leading cause of mortality among geriatric patients, with an age-specific case fatality rate that ranges from 15% to 30% (as compared to 4%-8% for patients aged < 65 years).⁹⁻¹² Although elderly patients comprise approximately 14% of the population in the United States, they account for almost one-third of annual trauma related deaths in the United States.^{1,13-15} Therefore, it is important for clinicians to be able to apply best practices in the management of this population.

Clinical Anatomy And Physiology And Associated Comorbidities

An important tenet in the care of older patients is the concept of chronologic versus physiologic age. A wide range of changes of biologic functioning exists after the age of 65 years. Factors of particular importance in surviving critical illness, including trauma, which may be independent of chronologic age, are overall physiologic reserve, organ structure and function, (eg, cardiac or renal function), pulmonary compliance and vital capacity, and changes in volume of distribution that occur with changes in body composition.⁴ Nevertheless, the risk of poorer outcome secondary to trauma begins to increase at age 40.^{6,16} This is seen particularly with mortality, which increases significantly at age 56. From age 65, the risk of mortality from trauma increases by 6% each year and doubles by age 75.^{2,17-19} This increased

susceptibility is largely attributed to senescence (which places the elderly at greater risk for injury from traumatic events), as well as to the specific physiologic alterations associated with aging that decrease the ability to respond to these systemic insults. Each organ is affected in specific ways and can begin a functional decline of 1% per year as early as after 30 years of age (eg, resting cardiac output).²⁰ Factors such as decreased peripheral vision, delayed reaction times, imbalance, decreased coordination, postural instability, kyphosis, and, at times, cognitive decline can contribute to the elderly's increased risk of trauma. **Table 1 (page 50)** provides an overview of the anatomic and physiologic factors associated with aging that contribute to injuries and adverse outcomes in elderly trauma victims.

The effect of comorbid disease states and pre-existing medical conditions in older trauma patients is significant. Comorbid conditions are seen in 35% to 45% of individuals aged > 65 years and in 90% of those aged > 85 years, and these conditions increase the possibility of a traumatic event (particularly motor vehicle crashes), diminish available physiologic reserve, and worsen the degree of injury.^{12,21-28} Additionally, medications for these comorbid conditions can often worsen the elderly's predisposition to traumatic injury, most notably psychotropics (eg, antidepressants, sedatives), antihypertensives (eg, beta blockers, calcium-channel blockers), hypoglycemic agents, and anticoagulants.^{1,29} In addition, polypharmacy is very prevalent in this population and increases the risk of decompensation in response to certain medications, particularly those affecting the cardiovascular and renal systems.⁴

Mechanisms Of Injury

While age itself is an independent contributor to the disproportionate mortality seen in elderly trauma patients, injury severity is a critical factor as well.^{13,21,26,27,30-34} The extent of injury can reflect the mechanism, but the severity tends to be more significant for older patients. Older adults with 'atypical presentations' as the rule and not the exception holds true in trauma victims. Clinicians should maintain a high index of suspicion for severe trauma

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Obese Trauma Patients: Taking A Different Approach To Patient Care

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Introduction

Obesity is an increasing global pandemic of varying degrees worldwide.¹⁻⁴ Unlike other major global health risks such as tobacco and childhood malnutrition, the worldwide prevalence of overweight (BMI ≥ 25 kg/m²) and obese (BMI ≥ 30 kg/m²) individuals nearly doubled from 1980 to 2008 and continues to rise. According to data published in 2012, the estimated prevalence of obese adults in the United States was 36%.⁵

The adverse health effects of obesity include increased risk for coronary artery disease, ischemic stroke, diabetes mellitus, and cancer of the breast, colon, prostate, endometrium, kidney, and gallbladder. The risk of cardiac and all-cause mortality substantially increases compared to nonobese individuals in large prospective cohort studies.^{6,7} There is also an increased risk for morbidity and mortality in trauma.⁸⁻¹¹ While seat belt use and air-bag development have contributed to a 50% reduction of motor vehicle crash (MVC)-related injuries, seat belt use has been shown to decrease as BMI increases.^{12,13}

Obesity places a large financial burden on the healthcare system. The cost burden for caring for overweight and obese patients in the United States is estimated at more than \$100 billion, nearly 10% of United States health expenditures.¹⁴⁻¹⁶ Caring for overweight and obese patients also requires specialized care and/or modifications in care compared to nonobese patients, presenting issues across the full spectrum of trauma care.

Additionally, multiple studies have suggested an increased rate of morbidity, mortality, and increased hospital length of stay (LOS), intensive care unit (ICU) LOS, rates of intubation, and wound complications.^{17,18} Therefore, emergency clinicians need to have an understanding of the effects of obesity on physiology and how this affects patient care in this population.

Pathophysiology

Obesity has a number of deleterious effects on the normal physiology of the pulmonary, cardiovascular, gastrointestinal, and immune systems, among others. This should be taken into consideration when managing obese trauma patients.

Effects Of Obesity On The Pulmonary System

One of the most harmful physiologic effects of obesity related to trauma care is on the pulmonary system. Respiratory compliance is markedly and exponentially reduced in obese individuals as a function of BMI, primarily due to adipose tissue deposition in the chest wall, diaphragm, and abdomen. This leads to a reduction in lung volumes, including reduced expiratory reserve volume and functional residual capacity, as well as ventilation-perfusion mismatch related to collapse of small airways that is more pronounced in the supine position or with sedation/paralysis.¹⁹⁻²² Airway resistance also increases with obesity.²³⁻²⁵ As BMI increases, more-rapid oxygen desaturation occurs during periods of apnea.^{26,27} Excessive body weight has also been identified consistently as the strongest risk factor for obstructive sleep apnea which may make patients more prone to trauma and could complicate their treatment.^{28,29}

Effects Of Obesity On The Cardiovascular System

Obesity is associated with increased rates of hypertension, stroke, and other cardiovascular diseases. Increased cardiac output related to the stroke volume necessary for the increase in intracellular and extracellular volume seen in obesity may lead to left ventricular hypertrophy and cardiomyopathy.^{24,30,31} Obesity is an independent risk factor for thromboembolic disease, with a hazard ratio of 1.88 for obesity (95% confidence interval [CI], 1.44-2.45).³² Obese patients also experience a higher rate of postoperative cardiac complications including pulmonary embolism and cardiac failure.^{33,34}

Effects Of Obesity On The Gastrointestinal System

Obese patients with associated diabetes mellitus may suffer from gastroparesis and have increased abdominal pressure, increased incidence of hiatal hernia and gastroesophageal reflux disease, and increased gastric volumes, with a lower pH of gastric contents.³⁵ These conditions predispose obese patients to an increased risk of aspiration and pneumonia.³⁶ Patient positioning is important to prevent aspiration. Prophylaxis for gastroesophageal reflux

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Trauma Malpractice: Steps To Mitigating Risk

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Introduction

The principles of medical malpractice liability for the emergency clinician remain fairly consistent whether discussing trauma or other types of cases. This chapter will cover the basics of medical legal liability, and will highlight those areas of particular relevance in trauma cases. In addition, liability for on-call physicians, such as trauma surgeons and neurosurgeons, including liability under the Emergency Medical Treatment and Active Labor Act (EMTALA), will be covered.

Building A Medical Malpractice Case

In order to prevail in a medical malpractice lawsuit, the plaintiff must prove 4 elements of negligence under tort law. The first element is a duty to the patient. In emergency medicine, this occurs as soon as a patient signs into the emergency department (ED). The emergency physician or qualified provider has a duty, under EMTALA, to provide a medical screening examination, and then to treat and stabilize any emergency medical conditions that exist. For an on-call specialist or consultant, the time that the duty begins is less clear. Beyond this statutory EMTALA duty, all clinicians involved in the care of the patient also have a duty to provide the standard of care for the emergency medical condition.

Second, once a duty has been established, the plaintiff must show that there was a breach of this duty. In other words, there must be proof that the standard of care was not met. This is done through expert witness testimony from another physician paid by the plaintiff's attorney. The choice to use an expert witness based on where the expert witness practices, how much of their practice is as an expert witness versus as a clinician, and their specialty depends upon state rules of evidence.

Third, there must be a direct and causal link between a failure to meet the standard of care, and that this failure results in an injury to the patient. For example, a clinician may treat a trauma patient with multiple injuries, but may fail to identify a nondisplaced rib fracture and a stable spine fracture. So long as there are no sequelae from these injuries, it would be very difficult for the plaintiff to argue for any damages from this failure to diagnose.¹ On the other hand, if the spine fracture was actually unstable and the patient developed paraplegia, there

would be a direct link.

The fourth element is damages. This means that there must be injury to the patient due to the above elements. For example, if there was a duty and negligence, but the patient was not harmed, there is no malpractice, or if a patient had a nonsurvival injury and several other injuries were missed due to negligence, there is likewise no malpractice.

Risky Business – The Liability Environment In Trauma

According to a study analyzing data from 5825 physicians responding to an American Medical Association physician information survey covering the period from 2007 to 2008, the prevalence of being sued as an emergency physician was approximately 1 in 2, with an incidence of about 9% each year.² The survey asked whether or not the physician had ever been sued and whether or not they had been named in a lawsuit in the past year. Half (49.8%) of the emergency physicians responding reported at least 1 claim, and 30.9% reported ≥ 2 . Of those emergency physicians aged > 55 years, 75% had experienced claims. Therefore, an emergency physician's chances of being sued at some point are more likely than not, based on this survey data.

Interestingly, there is a gender gap. When it comes to being sued, a male physician's risk is twice as high when compared to a woman's.² While the reasons are unclear, some theories include factors such as body language and techniques of establishing rapport that sometimes differ between men and women and can have a profound effect on the rate of lawsuits.

Trauma care is often viewed by on-call specialists as being highly risky. There is a perception that taking a trauma call increases a surgeon's medical legal liability exposure, and it is sometimes cited as a reason for avoiding this type of call. However, when looking at trauma surgery malpractice, 2 studies indicate no increase in risk. The first was a 2005 study from the University of Texas at San Antonio, where the Department of Surgery examined 62,350 operations performed over a 12-year period.³ Of the operations examined, 21 lawsuits were initiated; 7 of those were dismissed, and 3 were granted summary judgments to the defendants. Ten were settled with payment to the plaintiffs, and only 1 went to a

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200-499	55%	\$157.05	\$143.55	\$98.55	\$80.55	\$76.05	\$103.50
500-799	60%	\$139.60	\$127.60	\$87.60	\$71.60	\$67.60	\$92.00
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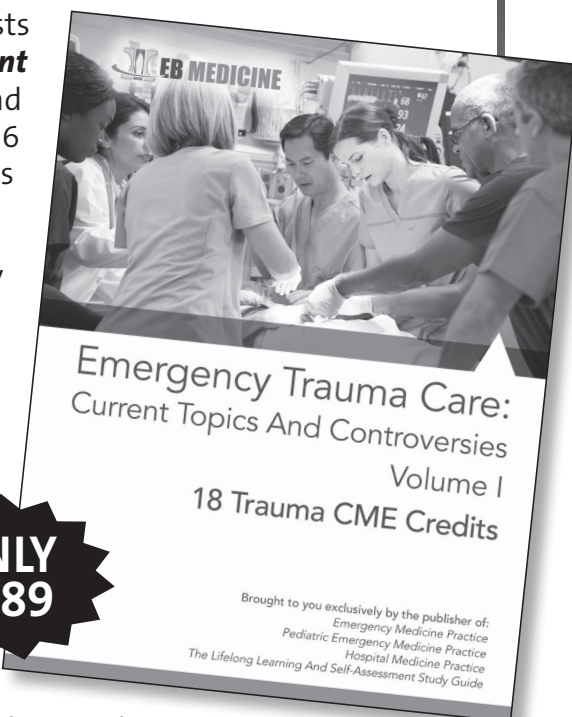
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