

## The Electronic Library of Trauma Lectures® Overview

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## Editors

### **Elizabeth NeSmith, PhD, RN Editor in Chief**



Dr. NeSmith is Chair of the Department of Physiological and Technological Nursing and Associate Professor at within the Augusta University (AU) College of Nursing (CON). She has nearly 25 years of experience in trauma, emergency, and disaster nursing. Having obtained her Doctor of Philosophy degree with a focus on translational and interdisciplinary research, Dr. NeSmith's federally-funded grants have focused on the effects of lifetime chronic stress on the inflammatory response and how it impacts healing and vulnerability to complications following acute life-threatening injury.

Dr. NeSmith is active at the state and national levels as an advocate nursing research and faculty development. In collaboration with her research team, Dr. NeSmith has multiple trauma-related publications and nationally-presented abstracts, and co-founded the Trauma Interdisciplinary Group for Research (TIGR). Together with her TIGR co-founder, Dr. Regina Medeiros, Dr. NeSmith also developed and authored publications and national presentations which focus on the implementation of their PhD/DNP Operational Collaborative (P-DOC) Model of clinical and research collaboration among doctorally-prepared nurses.

### **Linda Reinhart, MSN, RN, CNS, CCRN Managing Editor**



Linda Reinhart is an experienced educator, critical care nurse and trauma nurse. Currently, Linda works at Lehigh Valley Health Network in Allentown Pennsylvania, a Level 1 Adult Trauma Center, a Level 2 Pediatric Trauma Center, and an ABA Verified Burn Center. Over the last 32 years, she has served in various positions within the trauma service such as clinical staff, Patient Care Coordinator, Patient Care Specialist, and Adult Trauma Coordinator. She currently serves as a Trauma Educator and clinician in the Trauma Neuro ICU. In addition, Linda serves the Society of Trauma Nurses as an ATCN Educator,

Course Director and Instructor. She serves on the board of directors as the Clinical Director at Large, chairs the STN Clinical Committee and serves on the ATCN Committee. She has also served as a volunteer firefighter and has provided prehospital care for the last 36 years.

## Disclaimer

### Notice

Trauma Nursing is an ever-changing field. Standard safety precautions must be followed; however, as new research and clinical experience broaden our knowledge, changes in treatment and drug therapy become necessary or appropriate. Readers are advised to check the product information currently provided by the manufacturer of each drug to be administered to verify the recommended dose, the method and duration of administration, and contraindications. It is the responsibility of the treating licensed health provider(s) to determine specific treatment interventions and pharmacological regimens based on standard of practice and patient condition. Neither the Publisher nor the editor assumes any responsibility for any injury and/or damage to persons or property.

The Society of Trauma Nurses

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### The Electronic Library of Trauma Lectures®

The Society of Trauma Nurses is a professional nonprofit organization whose mission is to ensure optimal trauma care to all people locally, regionally, nationally and globally through initiatives focused on trauma nurses related to prevention, education and collaboration with other healthcare disciplines. The Society of Trauma Nurses' advocates for the highest level of quality trauma care across the continuum. We accomplish this through an environment that fosters visionary leadership, mentoring, innovation and interdisciplinary collaboration in the delivery of trauma care.

The STN brings value to nursing education by introducing one of the most respected educational resources available for teaching nurses. *The Electronic Library of Trauma Lectures®* is a collection of trauma related presentations considered the pre-eminent industry resource on trauma nursing care. The Electronic Library is designed to serve as a complete educational program for training nurses across the trauma continuum of care.

Each presentation contains learning objectives, a detailed lecture format with built-in instructor notes and discussion questions. Additionally, there are posttest questions and answers for each presentation that may be used for self-assessment purposes.

Clinical experts in the field of trauma care participated in the project both as authors and reviewers. Any comments or feedback regarding the Electronic Library are welcomed and may be e-mailed to the [info@traumanurses.org](mailto:info@traumanurses.org).

## **File Organization of the E-Library Presentations**

Files including presentations, self-assessment tests and answer keys and references are stored in four primary folders:

### **Section 1 - General Concepts**

- Chapter 1 - The Trauma Team: From Prehospital through the ED
- Chapter 2 - Hospital Emergency Operations Response: Mass Casualty Response

### **Section 2 – Clinical Concepts**

- Chapter 3 - Mechanism of Injury: Understanding the Kinematics of Trauma
- Chapter 4 - Hemorrhagic Shock

### **Section 3 - Single Systems**

- Chapter 5 - Traumatic Brain Injuries
- Chapter 6 - Maxillofacial and Ocular Injuries
- Chapter 7 - Spinal Column and Spinal Cord Injuries
- Chapter 8 - Neck Trauma
- Chapter 9 - Thoracic Injuries
- Chapter 10 - Abdominal Injuries
- Chapter 11 - Genitourinary Injuries
- Chapter 12 - Musculoskeletal Injuries
- Chapter 13 - Soft Tissue Injuries

### **Section 4 - Unique Populations**

- Chapter 14 - Pregnancy in Trauma
- Chapter 15 - General Concepts in Pediatric Trauma
- Chapter 16 - Geriatric Trauma
- Chapter 17 - Burn and Inhalation Injury
- Chapter 18 - General Principles in the Care of the Obese Trauma Patient

# Presentation Objectives

## SECTION 1 - GENERAL CONCEPTS

### Chapter 1 - The Trauma Team: From Prehospital through the ED

- Describe the prehospital through Emergency Department (ED) assessment priorities
- Discuss emergent interventions for life threatening injuries
- Explore several evidence based practice changes/controversies in prehospital and ED trauma care

### Chapter 2 - Hospital Emergency Operations Response: Mass Casualty Response

- Facilitate discussion regarding disaster or medical emergency response operations
  - Review the epidemiology of disasters
  - Define the role of Public Health in a disaster
  - Review the phases of disaster response
  - Define the role of hospitals in disaster response
- 

## SECTION 2 – CLINICAL CONCEPTS

### Chapter 3 - Mechanism of Injury: Understanding the Kinematics of Trauma

- State how the fundamental principles of physics apply to various types of injuries
- Given a specific mechanism of injury, predict injury patterns

### Chapter 4 - Hemorrhagic Shock

- Recognize hemorrhagic shock signs and symptoms
  - Explain the importance of early control of hemorrhage in trauma patients
  - Describe the management and ongoing evaluation of hemorrhagic shock
  - List the components of damage control resuscitation
- 

## SECTION 3 - SINGLE SYSTEMS

### Chapter 5 - Traumatic Brain Injuries

- Identify the functional anatomy of the brain and the effects of traumatic brain injury (TBI)
- Describe the initial management and neurological assessment of the TBI patient
- Explain management strategies to reduce the risk of secondary injury

## **Chapter 6 - Maxillofacial and Ocular Injuries**

- Identify the key anatomical structures of the face and eye and the impact of force on those structures
- Discuss assessment priorities for a patient with maxillofacial and ocular injuries
- Prioritize the care of a patient with facial and ocular injuries
- Discuss psychosocial support for a patient with maxillofacial and ocular injuries

## **Chapter 7 - Spinal Column and Spinal Cord Injuries**

- Identify the components of the spine
- Assess for spine and spinal cord injury
- Discuss the initial management of the spinal cord injured patient
- Evaluate the long term needs of the spinal cord injured patient
- Describe effects of spinal cord injury on the rest of the body

## **Chapter 8 - Neck Trauma**

- Examine the spectrum of neck trauma, the mechanisms of injury and associated injury patterns
- Define the three zones of the neck used as classifications of injury
- Identify the appropriate diagnostic modalities used to evaluate patients with neck trauma
- Explain the therapeutic interventions in the management of neck trauma
- Identify nursing interventions important in caring for patients with neck trauma

## **Chapter 9 - Thoracic Injuries**

- Describe resuscitative interventions for patients with thoracic trauma
- Explain clinical manifestations associated with life-threatening injuries
- List life-threatening injuries that should be identified during the primary survey
- Identify general treatment for patients with thoracic trauma

## **Chapter 10 - Abdominal Injuries**

- Describe common mechanisms of injury seen in abdominal trauma
- Discuss various injuries of the abdomen
- State appropriate assessment and diagnostic studies for the patient with abdominal trauma
- Describe abdominal compartment syndrome and the importance of its early recognition

## **Chapter 11 - Genitourinary Injuries**

- Describe the mechanisms of injury for genitourinary (GU) trauma
- Identify the appropriate physical assessment and diagnostic studies for the initial and ongoing assessment of the GU injured patient
- Identify three complications that can occur during the hospitalization of a patient who has sustained a GU injury



## **Chapter 12 - Musculoskeletal Injuries**

- Identify the initial assessment for patients with musculoskeletal injury
- Describe upper extremity, lower extremity and pelvic musculoskeletal traumatic injuries and implications for nursing care
- Explain indications and strategies for open and closed reduction of fracture/dislocations
- Discuss the prevention, recognition and interventions for compartment syndrome and rhabdomyolysis

## **Chapter 13 - Soft Tissue Injuries**

- Define the major phases of wound healing
- Identify host determinants of wound healing
- Describe surgical and non surgical treatments of soft tissue injuries

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## **SECTION 4 - UNIQUE POPULATIONS**

### **Chapter 14 - Pregnancy in Trauma**

- Discuss the epidemiology, incidence and prevention of trauma in pregnancy
- Identify physiologic & anatomic changes in pregnancy pertinent to trauma care
- Discuss resuscitative management unique to the pregnant trauma patient

### **Chapter 15 - General Concepts in Pediatric Trauma**

- Describe at least one difference in the respiratory and cardiovascular system between children and adults
- Discuss assessment of Traumatic Brain Injury in the pediatric patient
- Identify the differences in spinal, thoracic, and abdominal injuries in the pediatric patient relative to adults
- Identify physical differences and specific developmental stages for different age groups and apply assessment and intervention strategies
- Discuss at least two important considerations in the approach to victims of child abuse

### **Chapter 16 - Geriatric Trauma**

- List the most common mechanisms of injury in the elderly
- Discuss 4 physiological changes that make the elderly trauma patient vulnerable to complications
- Describe issues with pain control in the elderly
- Describe the effectiveness of rapid reversal protocols in the head injured patient on antithrombotics

### **Chapter 17 - Burn and Inhalation Injury**

- Identify types of burn injury
- Describe assessment of the burn patient
- Evaluate treatment options
- Identify patients requiring transfer to a burn center

### **Chapter 18 - General Principles in the Care of the Obese Trauma Patient**

- Describe how the obesity epidemic impacts the delivery of trauma care.
- Discuss considerations needed in the initial assessment of the obese trauma patient
- Describe the management of blunt, penetrating, and burn injuries in the obese patient

## How to Use the E-Library

### How to Use the Presentations for a Lecture - Instructions for Instructor

The Electronic Library of Trauma Lectures® contains:

- 1) Eighteen lectures in the Presentation Folder
- 2) Corresponding tests with answer keys in the Self-Assessment Test Folder
- 3) References for presentations in the References Folder

#### Presentation Folder

The presentation folder consists of eighteen lectures in four sections:

- Section 1 General Concepts in Nursing
- Section 2 Clinical Management Concepts
- Section 3 Single System Injuries and
- Section 4 Unique Patient Populations

The instructor can use the Power Point presentation in three ways.

1. **Slide Show:** The slide series will open in the slide show mode ready to be used for presentation.
2. **Notes Page:** Click the View Tab and choose Notes Page for extensive notes available to be used by the instructor.
  - a. These notes are also available in the “Speaker Notes” folders.
3. **Handout:** Print Slides 3 per page which can be used as a handout for the attendee.

#### Tests and Answer Key Folder

There are eighteen tests and answer keys corresponding to each of the presentations in the folders labeled Self-Assessment Tests and Answer Keys.

#### File Formats

The presentations are saved in PowerPoint format. The speaker’s notes, tests and answer keys are saved in Adobe Acrobat format.

## **How to Use the Presentations Internally**

The Electronic Library of Trauma Lectures® may be distributed for the purposes of educating a mass group of nurses internally, for online education, and self-study.

Institutions interested in this method should send a letter of request via mail or email to the Society of Trauma Nurses. Upon review, STN will provide the requestor with a signed letter granting the institution permission to distribute the presentations internally within the hospital system.

Send Correspondence to:

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## **Continuing Education**

The Electronic Library of Trauma Lectures® is not approved for continuing education nursing contact hours although the files and resources included with the presentations are designed so that institutions may apply for approval using the materials provided in the files.