



Dear Colleague:

Welcome to the first edition of *North Memorial Trauma Update*. This peer-reviewed educational newsletter, written by the trauma surgeons at North Memorial, will arrive on a quarterly basis. One goal of a Level I Trauma Center is to provide quality trauma education to providers caring for injured patients. Volume one will cover initial resuscitation of the trauma patient. Subsequent editions will discuss the secondary and tertiary survey, role of radiographs and laboratory studies, and mechanism of injury.

To receive one *AMA PRA Category 1 Credit(s)*TM answer the questions on the postcard provided in this newsletter. In the future if you would prefer to receive this publication by email, please send the request to, traumaupdate@northmemorial.com.

Sincerely,

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Trauma Update Introduction

The most commonly used method in the United States for the initial assessment of the trauma patient is outlined in the American College of Surgeons “Advanced Trauma Life Support” course (ATLS). It provides a systematic method for evaluating the trauma patient, focusing initially on life threatening injuries and spine protection and is followed by a thorough head-to-toe assessment of the patient to identify his or her injuries.

The focus of the first edition of *Trauma Update* will be the primary survey. The basic premise of ATLS is to treat the greatest threat to life first. It also advocates that lack of a definitive diagnosis and detailed history should not slow the initiation of therapies for acute life-threatening injuries.

After completion of the primary survey and stabilization of vital signs, the secondary survey is initiated. This is a head-to-toe focused evaluation of the trauma patient including: head, neck, maxillofacial, chest, abdomen, perineum, musculoskeletal and neurological. If at any time during the secondary assessment the patient’s condition should deteriorate, the secondary survey is stopped and another primary survey is repeated looking for evidence of previously unrecognized life-threatening injuries. In the secondary survey, a focused history is obtained. The mnemonic that is used in ATLS is the AMPLE history.

- A** Allergies
- M** Medications
- P** Past illnesses/Pregnancy
- L** Last meal
- E** Events/Environment related to the injury.

Finally, the secondary survey uses radiographs if the patient is stable, in an effort to clearly identify injuries suspected on the primary and secondary surveys and to identify injuries not apparent on physical examination.

In the upcoming months, these topics will be reviewed in more detail in an effort to describe an integrated system of the initial evaluation of trauma patients. Next we will review patterns of injuries and specific injuries with the goal of providing a review of current literature and an update of information presented in current

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text books.

contact us at traumaupdate@northmemorial.com.

We welcome your suggestions for improving the information provided in this newsletter. Please feel free to

The ABC's of Trauma Care: Primary Survey

Purpose: The essentials of Advanced Trauma Life Support's (ATLS) primary survey will be reviewed using an illustrative case.

Objectives: At the conclusion of this activity, participants should be able to:

1. Identify the initial steps in trauma resuscitation
2. Discuss signs of shock and immediate resuscitation treatment
3. Describe the steps in the primary survey

Case Study: A 68 year-old male driver of a car collides

with a large truck at highway speeds, causing significant damage to the car. The driver is found slumped over the steering wheel, unresponsive to voice. Extrication is completed. The patient is noted to have a large, bleeding scalp laceration and a deformed bleeding thigh with an overlying laceration.

He is brought to your emergency department on a long back board and has a firm cervical collar. An oropharyngeal airway and mask O₂ are in place. There is one 18 g peripheral IV with fluid running. The head and thigh wounds are wrapped and dressings are blood-soaked. Breath sounds are rhonchorous bilaterally. There is



QUESTION #7:

This patient stabilizes with control of the external bleeding, IV fluids and temporary stabilization (splinting) of the femur. This patient's mental status has been worrisome since the accident scene. What are the key elements to the initial neurological exam during the primary survey?

Answer(s):

- A. Level of consciousness
- B. CT scan of brain
- C. MRI of the brain
- D. Glasgow Coma Score
- E. Pupillary exam

A quick assessment of one's level of consciousness can be done using the "AVPU" scale. In other words, the patient may be Alert, respond to Voice, respond to Pain or be Unresponsive. The Glasgow Coma Score is a 3-15 point scale based on the patient's best eye-opening response, the patient's best vocal response and their best motor response. Finally, a quick pupillary exam will complete the initial rapid neurological exam.

QUESTION #8: WHAT IS THE LAST STEP IN THE PRIMARY SURVEY OF A MULTIPLY-INJURED PATIENT?

Answer:

- A. A wide variety of blood tests
- B. CT scans of all major body areas
- C. EKG
- D. A tube or drain in every orifice

- E. Complete removal of all clothing to expose and allow examination, followed by warm blankets and warm IV fluid to prevent hypothermia.

Though it may be important to eventually obtain the above blood and imaging tests in the trauma patient, the last part of the primary survey deals with exposing all parts of the body, but protecting the patient from hypothermia, which can occur rapidly, especially in the pediatric trauma patient. Foley catheters, endotracheal tubes, and nasogastric (NG) tubes also may eventually be needed.

References:

American College of Surgeons Committee on Trauma, "Initial Assessment and Management," in *ATLS: Student Course Manual, 7th edition*, pp 11-21; ACLS; (Chicago); 2004.

Crosby, ET, "Airway management in adults after cervical spine trauma," *Anesthesiology* 104:1293; 2006.

American College of Surgeons Committee on Trauma; "Spine and Spinal Cord Trauma," in *ATLS: Student Course Manual; 7th edition*; pp.177-189; and 200-202; ACLS; (Chicago); 2004.

Parks, SN, "Initial Assessment in Trauma" 5th edition; Moore, EE, Feliciano, DV, Mattox, KL, editors; pp 159-75; McGraw-Hill (New York), 2004.

1-C; 2-D; 3-E; 4-A, B & C; 5-A; 6-D; 7-A; 8-E
Answers

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2008 CME Opportunity

Advanced Trauma Life Support (ATLS)

October 23 & 24, 2008

This program was developed by the American College of Surgeons Committee on Trauma and is designed to assist physicians in providing the first hour of emergency care to trauma patients. Training combines didactic lectures and practical skills stations, allowing time to perfect skills in the initial assessment; and management and stabilization phases of trauma patients.

For registration and/or questions please call (763) 520-7274.

2008 Trauma Nursing Conference

Beyond The Secondary Survey

Critical Care Trauma Course

October 21 & 22, 2008

This course is directed to critical care nurses who provide care for trauma patients after the initial resuscitation period. It will include lecture and discussion on pathophysiologic responses to injury, management of the critically injured patient and the components of an organized trauma system.

For registration and/or questions please call (763) 520-5940 or email, ce@northmemorial.com

North Memorial Trauma Update is a quarterly publication of North Memorial's Trauma Service Department, 3300 Oakdale Ave. N., Robbinsdale, MN 55422. For suggestions or comments, please email traumaupdate@northmemorial.com or call (763) 520-7647.

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