

PHTLS

Prehospital Trauma Life Support
NINTH EDITION

LESSON 2

Scene Management and Primary Survey

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Lesson Objectives

- Identify the scene safety threats that pose a hazard to personnel, patients, and bystanders.
- Develop a patient approach plan using information gathered during the scene size-up.
- Describe the integration of assessment and management during the primary survey.
- Apply a model uniform core criteria (MUCC)-compliant triage method to manage multiple casualty incidents.
- Identify indications of intimate partner violence.

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Scene Size-Up and General Impression

- Scene Size-Up
 - Consider possible safety hazards and resources available.
- General Impression
 - Rapid global overview of the patient

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Primary Survey

- Primary Survey
 - X—Identify severe external bleeding.
 - A—Identify airway compromise or potential for this to develop.
 - B—Identify breathing inadequacy or potential for this to develop.
 - C—Identify hypoperfusion; control mild to moderate bleeding.
 - D—Identify neurologic dysfunction.
 - E—Identify significant injuries.

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Glasgow Coma Scale

Eye Opening	Points
Spontaneous eye opening	4
Eye opening on command	3
Eye opening to pressure	2
No eye opening	1
Best Verbal Response	
Answers appropriately (oriented)	5
Gives confused answers	4
Inappropriate words	3
Makes unintelligible noises	2
Makes no verbal response	1
Best Motor Response	
Follows command	6
Localizes	5
Normal flexion response	4
Abnormal flexion response	3
Extension response	2
Gives no motor response	1
Total	<input type="text"/>

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Case Study: Presentation/Dispatch

- You are dispatched to a small industrial site for a person trapped in a machine.
 - Patient: 34-year-old male with right leg caught in an industrial machine
 - Your ambulance is dispatched along with a fire apparatus carrying extrication tools.
 - Small tertiary hospital is 15 minutes away by ground.
 - Level I trauma center is 45 minutes away by ground and 10 minutes by air; helicopter is 25 minutes from the scene.

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Scene Size-Up

- What scene safety concerns or considerations are present?



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Case Progression

- A dispatched fire apparatus with a crew of four and extrication equipment arrives before your ambulance.
- The 34-year-old male has been removed from the machinery and is sitting against a wall.
- The fire crew reports the patient's right leg was pulled into exposed machinery up to the knee.
- There was no associated fall or any other injury.

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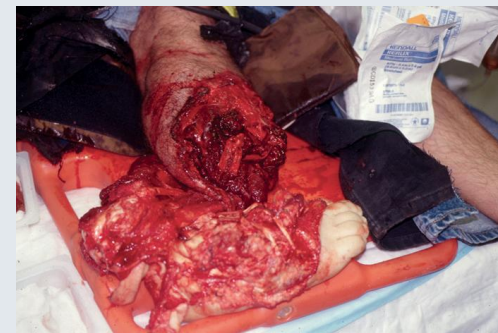
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General Impression

- The patient appears alert but is pale and diaphoretic.
- His right lower leg is wrapped in blood-soaked dressings, from which blood is dripping.
- There is a blood trail from the machinery to a pool of blood beside him.

General Impression

- What is the mechanism of injury?
- Is cervical spine motion restriction indicated?
- Do you have enough resources to manage this patient?



Courtesy of Peter T. Pons, MD, FACEP.

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Discussion

- Capillary bleeding
 - Caused by abrasions that have scraped open the tiny capillaries beneath the skin
 - Controlled with direct pressure



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Discussion

- Venous bleeding
 - Trauma to a vein
 - Originates from deeper in the tissue
 - Usually controlled with direct pressure



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Discussion

- Arterial bleeding
 - Trauma to an artery
 - Difficult to control
 - Characterized by spurting blood
 - Can quickly result in life-threatening hypovolemia



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Case Progression

- X—Uncontrolled severe external bleeding at right leg; controlled with tourniquet
- A — Airway patent
- B — Slow deep breaths are adequate; provide supplemental oxygen
- C — Skin is pale and moist, rapid radial pulse
- D — GCS: 15
- E —Absence of motor function, sensation, and pulse distal to injury site

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Initial Actions to Treat Life Threats

- Name the potential life threats and their initial treatments.
- What treatment technique is indicated for the patient in this case?



Courtesy of Peter T. Pons, MD, FACEP.

Discussion

- If the patient was unresponsive, breathing shallow and fast >30 breaths/minute, how would we initially manage the patient?

Manage all life threats first.

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Discussion

- Where should this patient be transported?
- How should this patient be transported?
- Should the secondary survey be performed on scene or should transport be initiated?

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Case Summary

- Primary survey completed; life threats managed.
- Patient was transported via helicopter to a level I trauma center and admitted for surgical repair.
- Patient was discharged 1 week later to rehabilitation unit after an above-knee amputation of the right leg.

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Critical Actions

- Critical actions in this case
 - External hemorrhage control
 - Supplemental oxygen to avoid hypoxia
 - Cover patient with blanket
 - IV therapy
 - Fluid administration to support perfusion

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Mass-Casualty Triage

- There are many triage systems currently in use around the world.
- There is limited data to support one approach over the other.
- EMS practitioners must be familiar with the locally used system.



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Wrap-Up

- Scene safety of prehospital care providers and the patient is the priority.
- All life threats are to be managed as soon as discovered.
- Maintain a high index of suspicion for subtle life-threatening injuries.