

Surgery – General Surgery

Hx and Ex “Trauma “

ATLS Concept:

- **ABCDE** approach to evaluation and treatment
- Treat greatest threat to life **first**
- Definitive diagnosis **not** immediately important
- Time is of the essence
- Do no further harm *

ABCDE APPROACH:

Airway with c---spine protection

Breathing / ventilation / oxygenation

Circulation: stop the bleeding!

Disability / Neurological status

Expose / **E**nvironment /Body temperature

QUICK ASSESSMENT

What is a quick, simple way to assess a patient in 10 seconds?

Identify yourself

Ask the patient his or her name

Ask the patient what happened

An appropriate response to the previous question confirms the following:

-Patient's Airway

-Sufficient air reserve to permit speech

-Sufficient perfusion to permit cerebration

-Clear sensorium

Apply principles of “primary” and “secondary” surveys

- Identify management priorities
 - Institute appropriate resuscitation and monitoring procedures
 - Recognize the value of the patient history and biomechanics of injury
 - Anticipate and manage “pitfalls”
-

Initial assessment:-

Primary survey and resuscitation of vital functions are done simultaneously using a team approach.

Primary survey:

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Airway:

Establish patent airway and protect c-spine

Basic Airway techniques:

Chin-lift maneuver

jaw-thrust maneuver

Pitfalls:

occult air way injury
progressive loss of airway
Equipment failure
Inability to intubate



Advanced airway techniques:

Orotracheal intubation

Breathing

Assess and ensure adequate oxygenation and ventilation

- Respiratory rate
- Chest movement
- Air entry (by auscultation)
- Oxygen saturation

The Immediate **life threatening** injurie:

- Massive hemothorax (> 1.5 L)

MANAGEMENT:

Where to insert chest tube?

5th intercostal space, anterior to the mid axillary line.

How to manage tension pneumothorax?

Needle to the 2nd intercostal space at the mid axillary line (needle thoracostomy) followed by Chest tube!

How to manage open pneumothorax?

Placement of dressing secured on 3 sides to create (flutter-valve) because securing on 4 sides will cause tension pneumothorax, a chest tube distant from injury must then be placed.

How to manage hemothorax?

Chest tube, if the bleeding didn't stop, the patient must be taken to the OR

How to manage cardiac tamponade in trauma?

Heart injured, needle pericardiocentesis or pericardial window can be immediately life-saving. Thoracostomy is the definitive treatment with repair of injury

Pitfalls:

Airway versus ventilation problem? Iatrogenic pneumothorax or tension pneumothorax?

Circulation

- Level of consciousness
- Skin color and temperature
- Pulse rate and character

Pitfalls:

Elderly, Children

WHAT ARE THE CAUSES OF HYPOTENSION IN TRAUMA?

Bleeding in the chest - Dx: by Examination & X-ray

bleeding in the abdomen - Dx: Fast , DPL, abdominal distention

Bleeding in the pelvis - pelvis is moving with hypotension!

External bleeding

bleeding at the site of trauma

Disability:

Baseline neurologic evaluation:

- Glasgow Coma Scale score
- Pupillary response (the only way to check for brain injury)
- Observe for neurologic deterioration very imp

	Score
Eye opening (E)	
Spontaneous	4
To speech	3
To pain	2
No response	1
Motor response (M)	
Obeys	6
Localizes	5
Withdraws	4
Flexion	3
Extension	2
No response	1
Verbal response (V)	
Orientated	5
Confused conversation	4
Inappropriate words	3
Incomprehensible sounds	2
No response	1

Glasgow Coma Scale = $E + M + V$
(GCS minimum = 3; maximum = 15)

EXPOSURE / ENVIRONMENT

Completely undress the patient

Prevent hypothermia

Check for missed injuries

SECONDARY SURVEY

The **complete** history and physical examination.

When do I start the secondary survey?

Primary survey is completed

ABCDEs are reassessed

Vital functions are returning to normal

COMPONENTS OF THE SECONDARY SURVEY

History:

Allergies Medications Past illnesses Last meal Events / Environment / Mechanism

Physical exam: Head to toe

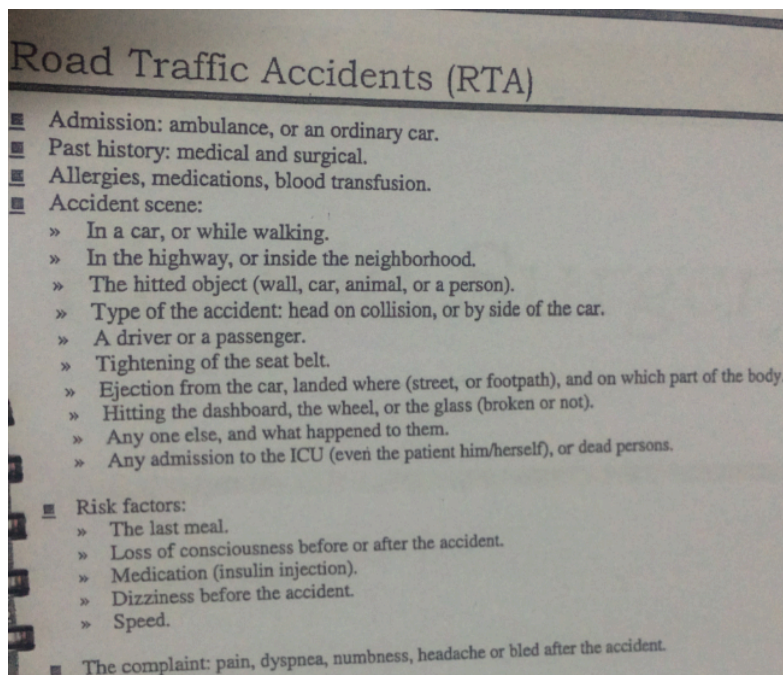
Complete neurologic exam

Special diagnostic tests

Reevaluation

<http://www.youtube.com/watch?v=hLuC0T7RsKI>

the video is very imp to understand



(Doaa manual of surgical OSCE)

Physical exam: Head to toe

A. Head:

- External exam ● Scalp palpation ● Comprehensive ● eye and ear exam ● Including visual acuity

B. Neurologic:

1-Brain:

- GCS (Glasgow Coma Scale score)
- Pupil size and reaction ● Lateralizing signs ● Frequent reevaluation ● Prevent secondary brain injury >>>> by Early neurosurgical consult !

2- Spinal Assessment:

- Whole spine ● Tenderness and swelling ● Complete motor and sensory exams ● Reflexes
- Imaging studies

C. Maxillofacial

- Bony crepitus ● Deformity ● Malocclusion

D. Neck (Soft Tissues)

Mechanism: Blunt vs penetrating Symptoms: Airway obstruction, hoarseness Findings: Crepitus, hematoma, stridor, bruit

E. Chest:

- Inspect ● Palpate ● Percuss ● Auscultate ● X-rays

F. Abdomen:

- Inspect / Auscultate ● Palpate / Percuss ● Reevaluate ● Special studies

G. Pelvis:

- Pain on palpation ● Leg length unequal ● Instability ● X-rays as needed

H. Extremities

Contusion, deformity ● Pain ● Perfusion ● Peripheral neurovascular status ● X-rays as needed

I. Perineum

Contusions, hematomas, lacerations, urethral blood Rectum. Sphincter tone, high-riding

The case might be (a patient with flail chest) you will do the primary survey then the secondary survey and focus on the chest examination

Flail chest notes :

The presence of open wounds or flail segments in the chest indicates the need for a chest drain and positive-pressure ventilation.

A flail segment occurs when several ribs are fractured in two places.

The flail segments sink inwards during inspiration.

<http://www.youtube.com/watch?v=uJHfX1RFkF0>

Bruising over the chest indicates that rib fractures are likely, and the presence of surgical emphysema suggests that the pleura has been breached.

Test for rib fractures. A careful inspection may detect a small flail segment. The chest should be 'sprung' by compressing it with both hands,

Pain on compression or release indicates the likelihood of rib fractures or costal cartilage separation from the ribs or sternum.

Both can then be more accurately localized by detailed palpation.

It should be remembered that rib fractures are often associated with injuries to the great vessels, lungs, spleen or liver.

The sternum must also be inspected and palpated. Sternal fractures are often associated with cardiac injuries.

Check again for the presence of a haemothorax, pneumothorax and cardiac tamponade, taking particular care to look for small pneumothoraces and an increase in the width of the mediastinum, which may be the only indication of an aortic dissection.

A chest radiograph should always be obtained if there is any question of a chest injury.

CT chest scans are even more accurate in detecting minor abnormalities and rib fractures.

Summary 431 notes :

-Primary survey : ABCDE imp + resuscitation

-Secondary survey : it came in one of the batches: "you're done from the primary survey start now with the secondary survey" !

2nd survey : Hx + Physical exams لكل شيء بشكل سريع (from head to toe : head, neck, listen to chest, ribs , joint , limbs, movement & sensation, palpate for tenderness ...)

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