

Slide 1

Time needed- 3mins for 1st 3 slides Review Instructor notes for each slide

50 minutes – interactive session – with whole candidate group

Requirements

- 4 assistant instructors with appropriate prompting materials needed. One for each group.
- Powerpoint slide set
- Handouts to groups
 - Pencils
 - Activity 1 and 2 on A3
 - Activity 3 on A3

Environment/Set

- Allow candidates to get themselves into 4 groups
- One instructor allocated per group



Read as on slide

Read as on slide Time 03mins (Time 03 mins at completion)



	0		Activity 1
		Goals	What are the broad goals
	(C)		what are the broad goals
	Α		of the primary survey?
- [В		4
	С		4 mins
	D		
	E		
	Other		1
	Actions		

Activity 1 – Goals of the Primary Survey Time needed 04 mins (Running time 7 mins at completion)

4 min breakout Small group activity

Handout proforma – Activity 1

Tell the groups to write on the A3

Read the following 'List the goals of each component of the structured approach of the primary survey' A facilitator is allocated to assist

Start the groups at different places. This ensures all areas are covered well. They have to listen though as the area they are allocated next will be different They should try and get through all goals but will be responsible for reporting back on the one they started on Allocate 1st group start with A, 2nd Group B, 3rd group C, 4th group D/E/Other. 1 facilitator per group with 4 slide handout to keep group on track.

- Activity 1 Primary Survey Goals
 - Review the goals of each component of the structured approach
 - This section is not about specific diagnoses but rather the broad physiologic goals
- Bring groups back together for plenary discussion with the next slide
 - Start at 7 min
 - Time needed 5mins to complete this exercise (Running time 12 mins at completion)
 - As per slide
 - Each group has a representative speak loudly and clearly
 - After group has presented display 'correct response'

Slide 5

Goals of primary survey					
(C)	Control catastrophic external haemorrhage				
А	Maintain and protect airway patency Minimise unnecessary cervical spine movement				
В					
С					
D					
E					
Rx					



apls

What preparation is needed to

address his potential injuries?

6 mins



Start at 12 min-

Time needed 2 mins for next 2 slides (Running time 14 mins at completion)

The initial presentation of the case is now relayed to the candidates over the next two slides.

This is your typical prehospital notification which is brief but not comprehensive.

The groups will now think about how they prepare their environment for this patient reception based on the likely injuries to each area of the primary survey



D

F

Time 2 mins (Running time 14 mins at completion)

Activity 2 – prehospital info preparation

Candidates will work through this case, using a structured approach, discuss in their groups the likely injuries, preparation for these.

Time needed 6 mins for activity (Running time 20 mins at completion)

Allocate groups different starting points. . This ensures all areas are covered well. They have to listen though as the area they allocated next will be different They should try and get through all goals but will be responsible for reporting back on the one they started on. Works best going anticlockwise or right to left, so that Group 4 get A (had D/E), Group 1 now get B (had A), group 2 get C (had B), , group 3 get D/E/Other (had C), This way each group is moving down the primary survey rather than backward, and once reaching the end start at the beginning again.

That is once they have finished E they'll be dealing with A next.

1 facilitator per group with 4 slide handout to keep group on track.

Activity 2 – Preparations

- groups should list the specific preparations for the likely injury

apls



Activity 1B – Prehospital preparation

Start at 20 min - Time needed 8 mins for feedback (Running time 28 mins at completion)

A – important to stress that haemoglobin is responsible for 95% oxygen carriage. As trauma patients may be losing haemoglobin, oxygen is imperative to allow dissolved oxygen, PO2, to carry oxygen to the tissues in the absence of haemoglobin. Manipulation of the airway, particularly in the obtunded patient, should respect the possibility of an occult or unstable neck injury, and so unnecessary neck movement should be minimised



B – with the history of blunt trauma and left chest pain any of these conditions are possible. Preparation for how to clinically detect these conditions, with the aid of chest x-ray, and how to rapidly manage, need to be prepared for.

Activity 2 Slide 15 apls Pre arrival preparation Stop exsanguinating haemorrhage (C)Airway equipment Minimise unnecessary neck movement А ICC for tension pneumothorax, massive haemothorax, open pneumothorax, ventilation for flail chest/lung contusion, CXR IVC x2, warmed IV crystalloid 10 mL/kg +/- 10 mL/kg 0 -ve bloo tranexamic acid, massive transfusion protocol, ?FAST, pelvic X-r R С D Е Rx

C - C – ABC – the focus is on detecting and stopping exsanguinated blood loss. Systematic approach to how to look for areas of declared as well as occult blood loss need to be thought about, as well as the utility of chest x-ray, pelvic x-ray, FAST scan. Areas of active bleeding should be managed with direct compression bandaging, suturing, reduction of fractures, pelvic binding. Large bore IV access is needed. Circulating blood volume should be maintained, with infusion of warmed fluid. The choice of resuscitation fluid is dependent on multiple variables including the presence of shock, estimated starting haemoglobin, the detectable areas of active bleeding and whether there is ongoing bleeding or not, and the response to initial fluid resuscitation. TXA helps decrease clot dissolution which contributes to acute traumatic coagulopathy. MTP is reserved for those requiring large volumes of blood or who are shocked at any stage.



D- A crude but important neurological assessment is necessary. Progress of neurological status needs to be observed. Factors that aggravate primary brain injury result in secondary brain injury. The major focus is avoiding hypotension and hypoxia. But hypercarbia, hyper/hypoglycaemia, hyperthermia, acidosis, hyponatraemia, seizures all need to be optimised to prevent this occurring.

Activity 2 Slide 17 apls Pre arrival preparation (C) Stop exsanguinating haemor compression, suture, binde Airway equipment Minimise unnecessary neck movement А ICC for tension pneumothorax, massive haemothorax, open pneumothorax, ventilation for flail chest/lung contusion, CXF В IVC x2, warmed IV crystalloid 10 mL/kg +/- 10 mL/kg O-ve bloo tranexamic acid, massive transfusion protocol, ?FAST, pelvic X-С Rapid neurological assessment, AVPU or GCS, pupils, limb movement secondary brain and spinal protection – avoid hypotension, hypoxia D Extremity review, exposure – log roll to assess posterior and thoracolumbar spine Environment – keep warm & check BGL Е Rx

E – exposure and a thorough examination of the posterior aspect and extremities of the patient is critical to not missing injuries. Remembering that heat loss needs to be minimised.



Rx - Other actions – the patient's mechanism of injury and initial descriptions of injuries and vital signs would recommend the presence of trauma team on arrival. As well as this notification of relevant complimentary services such as radiology, Blood Bank, surgical team, anaesthetic and intensive care team would be appropriate depending on the facility.

Slide 19



Activity 3 – Diagnoses & further Actions

Start at 28 min-

Time needed 2 mins for this slide (Running time 30 mins at completion)

Read the following

'Pt now arrives. A number of features of his primary survey have progressed.

Utilise the next seven minutes to consider his latest primary survey injury status and the associated treatment or intervention required.

Both areas of activity 3 need to be filled out on the A3 forms for this exercise. You have 7 minutes'

Time needed 7 mins for activity (Running time 37 mins at completion)

Start the groups at different places. This ensures all areas are covered well.

They should try and get through all areas but will be responsible for reporting back on the one they started on.

Works best going anticlockwise or right to left, so that Group 4 get B (had A), Group 1 now get C (had B), group 2 get D/E/Other (had C), group 3 get A (had D/E/Other), This way each group is moving down the primary survey rather than backward, and once reaching the end start at the beginning again.

That is once they have finished E they'll be dealing with A next.

1 facilitator per group with 4 slide handout to keep group on track.

Slide 20



Activity 3 – Diagnoses & further Actions

Time needed 2 mins for this slide (Running time 30 mins at completion)

Start at 28 min-

Time needed 2 mins for this slide (Running time 30 mins at completion)

Read the following

'Pt now arrives. A number of features of his primary survey have progressed.

Utilise the next seven minutes to consider his latest primary survey injury status and the associated treatment or intervention required.

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CXR DDx for decreased air entry – not all need ICC Pneumothorax

Slide 28

Slide 27



CXR DDx for decreased air entry – not all need ICC Lung contusion

Slide 29



CXR DDx for decreased air entry – not all need ICC Traumatic diaphragmatic hernia

Slide 30



Start at 41 mins

Activity 3 – Diagnoses & further Actions. 'Lets talk about C' Refresher whilst group give answers over next 2 slides Let them give answer before showing answer Time needed 2 mins for this and next 2 slides (Running time 43 mins at completion)

Slide 31



C – likely Dx if tachycardia = bleeding. If BP low = significant bleeding. Need to search for blood loss.



S.	R	Treatment and apls investigation					
	(C)						
	А	HFO NRB, suction, OPA ? NPA maintain C-spine immobilization – BVM, prepare for RSI					
	В	Left ICC – before or after RSI? CXR before/after?					
e.	с	Pelvic binder + Xray. ?FAST. 10mL/kg warmed blood, 10mL/kg crystalloid until available. Tranexamic acid. Surgeon needed					
	D						
	E						
		Seriously Injured Child					

C – Note output from ICC. Bind pelvis and Xray to ensure no fracture or position with binder satisfactory. CXR and Pelvic Xray if NAD helpful for excluding these areas as sources for significant blood loss. FAST scan in accredited hands detects blood in abdomen if blood present then

- need surgeon NOW
- resus with blood, TXA and consider MTP,
- pt needs advanced imaging (CT abdo).

Xray with pelvic binder in place



Slide 34 7th Ed. Fluid resuscitation in trauma kamic acid Tran 10mL/kg blood 10mL/kg blood Massive transfusion protocol (MTP) Crystalloid if blood not
 available Figure 8.2 Page 136

1 minute for these 2 fluid resus slides - remind them re early use of blood, activate MTP when 20 mls/kg fluid and ongoing shock/bleeding Now Advocating Tourniquets, direct pressure and early tranexamic acid

Minimal Volume resuscitation

Slide 35	Massive haemorrhage in	Massive hearton	hage in trauma	
Struc 55	trauma		Once or name of age, shade and the to request to plotting has, before insume insurantings protocol	
			Fectors treating Product there called - fixed promover, Consignal and the factors	
	 Shock and no response to 20 ml/kg fluid - declare massive haemorrhage 		The treasure are interaction of the treasure and the treasure are an entropy. The treasure are an entropy. The treasure are an entropy of the treasure are an entropy of the treasure are an entropy of the treasure are are an entropy.	
	protocol	De-text text i for bits of standing texter or other forg managements	Rend Manuface Drawmakity, (ching parameter, 1992, gala samate, chan partie of calar 2000a; studies; (chi) 2000a Use partie of calar 2000a; studies; (chi) 2000a; Drawna sha in the travent an advisor	
	 Give warmed RBC and plasma 10 ml/kg aiming for a balanced 1:1 ratio 	BATEDAIT read to turbat boat protocol der Bit unsg. d. HAC geneter	Serve sectors and total and shift's exclusions in any advances of the sector of the sector of the Regime's release of the sector	Theopolitic series disasting series into 14 + 40 pt Depide - 15 + 100
	Continuing shock/blood loss – give	Distar (MC) (Jacobia and cooperaphile Decret + M constability Summittings (4 or	Contracting Featrosticage and a stress Contract (1) pine 1800 (2001) Originations 180 (400) Originations 180 (400) Disconting featrostical United Contract Present FDC, dotting and pine	PT sets + 15 Providen + 15 provide Usable + 23 monat pr1 + 26 Noto + 27 kent hyperbolarma
	RBC and FFP 10 ml/kg Platelets 10 ml/kg. Cryoprecipitate 10 ml/kg	sritungskens CONBICKX Damage carbon Rudgery andre Indektopy	Part and the second sec	Contras & even of the Index haloes of the and the scorrings
			Grane of product product pro- overse states of a state of the product state.	Figure 8.3 Page 139
	Use local guidelines		Seriously Injured Child	

Slide 36

Activity 3 – Diagnoses & further Actions. 'Lets talk about D' apls (C) Α в с D Infused conversation, occasionally mbative, GCS 10, left pupil dilated Е E Temp 35°C, no extre alities



Refresher whilst group give answers over next 2 slides Time needed 2 mins for this and next 2 slides (Running time 46 mins at completion)

D – Decreased GCS and signs raised ICP – severe head injury



- management?
- Frequent monitoring
- Blood bank service including coagulation factors
- Accurate fluid management
- Emergent paediatric surgery immediately available

What are the indications for immediate laparotomy?

- Perforated viscous
- Penetrating injuries
- Refractory shock with clinical suspicion of intra-abdominal haemorrhage

Slide 43 Briefly review the important principles of managing a Paediatric traumatic cardiac arrest apls – principles of management? The emphasis and priorities are to manage the reversible causes specific to TCA, including: <C> - manage catastrophic external bleeding Matter Jack Including Apple Airway/Breathing – oxygenation and ventilation, exclude/treat tension Reverantes Restricts ventilation, excl pneumothorax Circulation – fluid resuscitation with early use of blood, exclude/treat pericardial tamponade



traumatic cardiac arrest



Slide 46



A prompting slide to remind the candidates of the differences in resuscitation of the traumatic patient v the ill patient

- control of catastrophic haemorrhage, care of the cervical spine, need for x 2 lvs, early blood products in major haemorrhage, analgesia...

Slide 47

