

EMERGENCY REPORT – STANDARDIZED CT OF THE WHOLE BODY IN MULTITRAUMA

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BACKGROUND

With the evolution of faster CT scanners, the practice of standardized scanning of the whole body in blunt multitrauma patients is gaining increased acceptance. In the patient with multiple, often life-threatening injuries, it is crucial to convey the findings to the referring physician fast and accurate. The radiology report should not only be oral but also in a written form, easy to comprehend.

PURPOSE

To develop a written standardized emergency CT report that is easy to comprehend for the clinician and is fast to complete for the radiologist.

METHOD

Creation of a standardized form/protocol (fig 1) with report boxes in columns to tick for radiologist. The focus is initially on the vertical column "INJURY", where the injured organ areas are typographically enhanced. The injuries are then detailed in a horizontally oriented column. Finally the absence of injuries is confirmed in another column.

The report is to be filled out immediately after monitor diagnosis, preferably to follow the patient, or to be immediately accessible in a RIS/PACS.

RESULTS

The report form is presented with an illustrated patient case (fig 2) with injuries of head, thorax, thoracic spine and femur.

CLINICAL EXAMPLE

A 45-year-old male front seat passenger is "T-boned" by a Jeep. On arrival the patient is in respiratory distress with tachycardia, systolic blood pressure of 100 and a GCS score of 5. The CT examination, covering the whole body, shows injuries to the head, thorax, thoracic spine and femur.

The report is filled out by the radiologist in conjunction with the CT examination, mainly by ticking standardized boxes (fig 2).

Reading the report, the physician is to follow the vertical column "INJURY" to each injured organ area to find injuries; and to continue to read horizontally to get the injury specification and warning/alerts for crucial findings.

CONCLUSION

The form is used in our hospital since two years with good clinical acceptance, providing fast and accurate information to the different involved clinical specialists.

FIG 1 Emergency report form for screening whole body computed tomography (SWB-CT) in multitrauma

HOSPITAL NAME		EMERGENCY REPORT CT-Multitrauma		Patient name		
		Date..... Time.....				
		Dr..... Pager.....		Trauma surgeon..... Pager.....		
NEG	INJURY	ORGAN	FINDINGS	DETAIL	ALERT!	COMMENTS
<input type="checkbox"/>	<input type="checkbox"/>	Head	Bleed <input type="checkbox"/> EHD <input type="checkbox"/> SDH <input type="checkbox"/> Subarach <input type="checkbox"/> Intracerebral <input type="checkbox"/> DAI <input type="checkbox"/> FX	<input type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> Skull <input type="checkbox"/> Facial	<input type="checkbox"/> Herniation <input type="checkbox"/> Shift.....mm <input type="checkbox"/> Oedema <input type="checkbox"/> Impression <input type="checkbox"/> Infection-risk	
<input type="checkbox"/>	<input type="checkbox"/>	Thorax	<input type="checkbox"/> Heart <input type="checkbox"/> Mediast hematoma <input type="checkbox"/> Pneumothx <input type="checkbox"/> Haemothx <input type="checkbox"/> Contusion <input type="checkbox"/> Ribfx	<input type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> RT <input type="checkbox"/> LT	<input type="checkbox"/> TAI <input type="checkbox"/> Tension-pneumothx <input type="checkbox"/> Flail chest	
<input type="checkbox"/>	<input type="checkbox"/>	Abdomen	<input type="checkbox"/> Free abd fluid <input type="checkbox"/> Retroperitoneal fluid <input type="checkbox"/> Diaphragm <input type="checkbox"/> Pancreas <input type="checkbox"/> Other organ	<input type="checkbox"/> Amount	<input type="checkbox"/> Ongoing bleed <input type="checkbox"/> Hypovolemia	
<input type="checkbox"/>	<input type="checkbox"/>	Bowel	<input type="checkbox"/> Oral contrast leak <input type="checkbox"/> Free air <input type="checkbox"/> Wall thickening <input type="checkbox"/> Mesenteric blood	<input type="checkbox"/> Perforation <input type="checkbox"/> Location		
<input type="checkbox"/>	<input type="checkbox"/>	Liver	<input type="checkbox"/> Subcaps hematoma <input type="checkbox"/> Parenchymal <input type="checkbox"/> Contrast leak		Grade:	
<input type="checkbox"/>	<input type="checkbox"/>	Spleen	<input type="checkbox"/> Subcaps hematoma <input type="checkbox"/> Parenchymal <input type="checkbox"/> Contrast leak		Grade:	
<input type="checkbox"/>	<input type="checkbox"/>	Kidneys/ Urinary tract	<input type="checkbox"/> No enhancement <input type="checkbox"/> Parenchymal <input type="checkbox"/> Urine leakage <input type="checkbox"/> Bladder rupture	<input type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> RT <input type="checkbox"/> LT	Grade: <input type="checkbox"/> Intraperit <input type="checkbox"/> Extraperit	
<input type="checkbox"/>	<input type="checkbox"/>	Spine	<input type="checkbox"/> Cervical <input type="checkbox"/> Thoracic <input type="checkbox"/> Lumbar	Level: Th 8-9	<input type="checkbox"/> Dislocation	
<input type="checkbox"/>	<input type="checkbox"/>	Major skeleton	<input type="checkbox"/> Pelvic <input type="checkbox"/> Hip <input type="checkbox"/> Femur (2/3) <input type="checkbox"/> Additional	<input type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> RT <input type="checkbox"/> LT		
Summary/recommended follow-up:						

FIG 2 Illustrated emergency report form with finding of multiple injuries

HUDDINGE UNIVERSITY HOSPITAL		EMERGENCY REPORT CT-Multitrauma		Patient name		
		Date..... Time.....				
		Dr..... Pager.....		Trauma surgeon..... Pager.....		
NEG	INJURY	ORGAN	FINDINGS	DETAIL	ALERT!	COMMENTS
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Head	Bleed <input type="checkbox"/> EHD <input checked="" type="checkbox"/> SDH <input type="checkbox"/> Subarach <input type="checkbox"/> Intracerebral <input type="checkbox"/> DAI <input type="checkbox"/> FX	<input type="checkbox"/> RT <input type="checkbox"/> LT <input checked="" type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> Skull <input type="checkbox"/> Facial	<input type="checkbox"/> Herniation <input checked="" type="checkbox"/> Shift...15...mm <input type="checkbox"/> Oedema <input type="checkbox"/> Impression <input type="checkbox"/> Infection-risk	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Thorax	<input type="checkbox"/> Heart <input type="checkbox"/> Mediast hematoma <input checked="" type="checkbox"/> Pneumothx <input type="checkbox"/> Haemothx <input type="checkbox"/> Contusion <input checked="" type="checkbox"/> Ribfx	<input checked="" type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> RT <input type="checkbox"/> LT <input checked="" type="checkbox"/> RT <input type="checkbox"/> LT	<input type="checkbox"/> TAI <input type="checkbox"/> Tension-pneumothx <input checked="" type="checkbox"/> Flail chest	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Abdomen	<input type="checkbox"/> Free abd fluid <input type="checkbox"/> Retroperitoneal fluid <input type="checkbox"/> Diaphragm <input type="checkbox"/> Pancreas <input type="checkbox"/> Other organ	<input type="checkbox"/> Amount	<input type="checkbox"/> Ongoing bleed <input type="checkbox"/> Hypovolemia	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Bowel	<input type="checkbox"/> Oral contrast leak <input type="checkbox"/> Free air <input type="checkbox"/> Wall thickening <input type="checkbox"/> Mesenteric blood	<input type="checkbox"/> Perforation <input type="checkbox"/> Location		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Liver	<input type="checkbox"/> Subcaps hematoma <input type="checkbox"/> Parenchymal <input type="checkbox"/> Contrast leak		Grade:	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Spleen	<input type="checkbox"/> Subcaps hematoma <input type="checkbox"/> Parenchymal <input type="checkbox"/> Contrast leak		Grade:	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Kidneys/ Urinary tract	<input type="checkbox"/> No enhancement <input type="checkbox"/> Parenchymal <input type="checkbox"/> Urine leakage <input type="checkbox"/> Bladder rupture	<input type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> RT <input type="checkbox"/> LT	Grade: <input type="checkbox"/> Intraperit <input type="checkbox"/> Extraperit	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Spine	<input type="checkbox"/> Cervical <input checked="" type="checkbox"/> Thoracic <input type="checkbox"/> Lumbar	Level: Th 8-9	<input type="checkbox"/> Dislocation	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Major skeleton	<input type="checkbox"/> Pelvic <input type="checkbox"/> Hip <input checked="" type="checkbox"/> Femur (2/3) <input type="checkbox"/> Additional	<input type="checkbox"/> RT <input type="checkbox"/> LT <input type="checkbox"/> RT <input type="checkbox"/> LT <input checked="" type="checkbox"/> RT <input type="checkbox"/> LT		
Summary/recommended follow-up:						

