Gloucestershire Safety and Quality Improvement Academy

Gloucestershire Hospitals NHS
NHS Foundation Trust

Introducing a Primary Survey Report for Trauma CT Scans

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Background

The Royal College of Radiologists (RCR) 2015 publication: "Standards of Practice and Guidance for Trauma Radiology in Severely Injured Patients"[1] advises that reporting of CT scans performed on trauma patients should follow the ATLS (Advanced Trauma Life Support)[2] format, in that there should be a primary survey and subsequent secondary survey.

Why include a primary survey? To identify and communicate the most immediately life-threatening injuries, using a logical structure and in a timely manner, so that these injuries can be promptly managed by the trauma team.

At our institution, trauma CTs are reported by local radiologists between 9am-9pm Monday to Friday and 9am-5pm Saturday and Sunday. Before starting this project, there was no primary survey proforma available for local radiologists to use.

Outside of these hours, trauma CTs are reported by an outsourcing company, Radiology Reporting Online (RRO), who are able to incorporate an electronic primary survey in their reports.

This quality improvement project aimed to introduce an electronic primary survey reporting proforma for local radiologists to use when reporting trauma CT scans in hours.

Objective: 50% of trauma CTs reported by local radiologists to include a primary survey by April 2018.

Methods

- Retrospective data collection for Oct 2017- March 2018. Primary survey proforma introduced between Oct and Nov 2017.
- Trauma CT scans performed during these months were extracted using the statistics package of the local CRIS (Computerised Radiology Information System). A search term of "trauma" was used to identify the relevant studies.
- Scans were included in analysis if they conformed to the standard trauma protocol for our institution: comprising a non-contrast CT head, and a contrast CT neck, chest, abdomen and pelvis, performed in the setting of traumatic injury.
- Each CT scan was analysed as to whether it was performed in hours by a local radiologist, or out of hours by RRO, and for the presence or absence of a primary survey report

TRAUMA PROTOCOL CT – PRIMARY ASSESSMENT

TO EXPEDITE INITIAL MANAGEMENT
OF IMMEDIATE LIFE-THREATENING INJURIES ONLY

AIRWAY
ET Tube – N/A /Correct/ Incorrect
Foreign body – Yes /No
Airway intact – Yes /No

BREATHING
Pneumothorax – Yes /No
Haemothorax – Yes /No
Chest drain – N/A /Correct /Incorrect

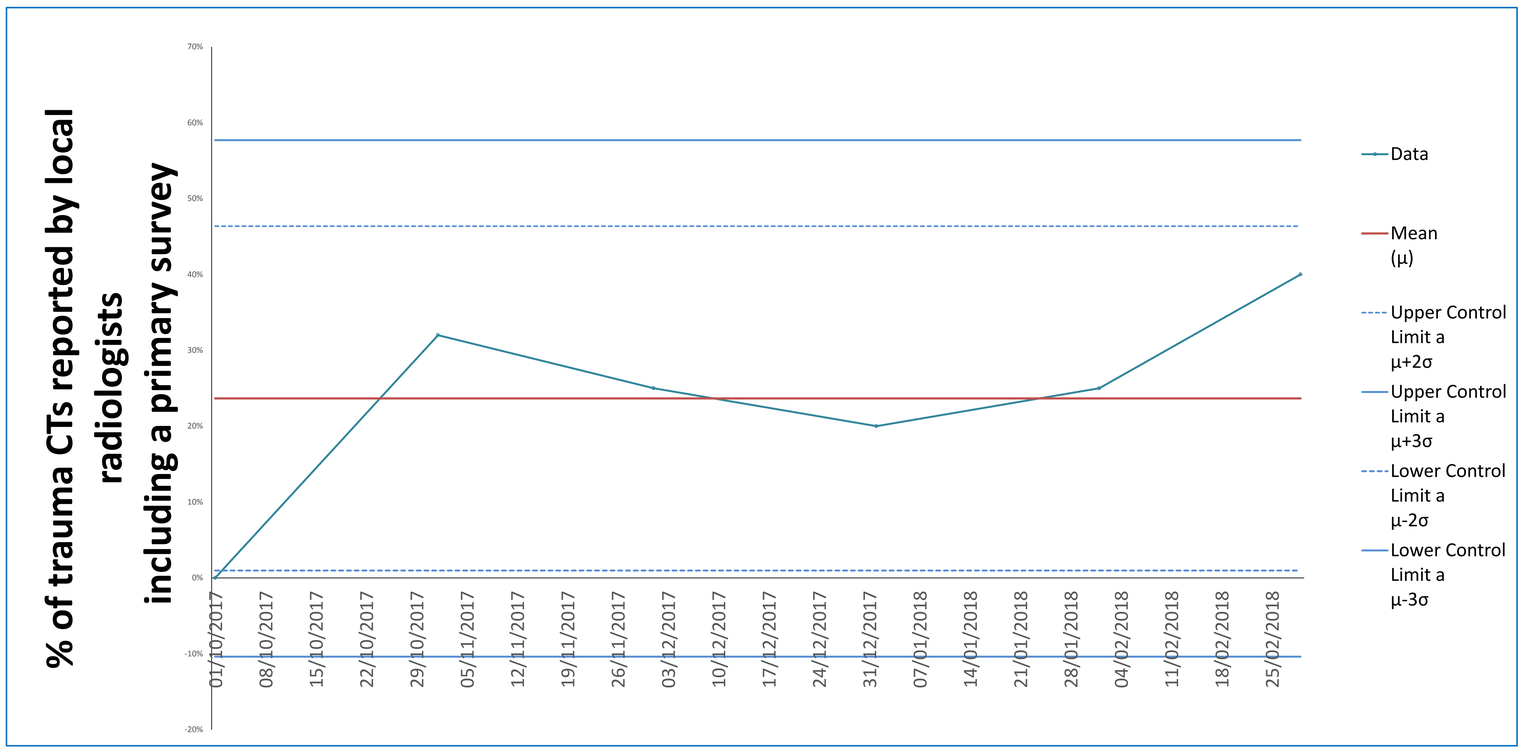
CIRCULATION (BLEEDING)
THORAX:
Contrast extravasation – Yes /No
Great vessel injury – Yes /No
Mediastinal haematoma – Yes /No
Mediastinal gas – Yes /No

IMPORTANT COMMENYS:

THIS IS A PROVISIONAL REPORT. ONLY GROSS LIFE-THREATENING INJURIES ARE COMMENTED ON IN THIS REPORT. AS ADDENDUM AFTER DETAILED REVIEW WILL FOLLOW. PLEASE ENSURE THE FULL REPORT IS CHECKED WHEN AVAILABLE.

REPORTING CLINICIAN:
GRADE: Consultant/ Registrar
TIME COMPLETED:

Results



- Overall inclusion of a primary survey by local radiologists increased from 0% to 40%
- Discussion in consultant meeting (occurring between Jan and Feb 2018) seemed an effective intervention

Factors Influencing Use of Primary Proforma	Action To Be Taken
Time restrictions on reporting	Discuss in department ways to streamline use of primary survey proforma so it is quick to report
Awareness of Proforma	Regular audit of primary survey proforma use and presentation at monthly departmental meeting
Awareness of how to use proforma	Reminder emails/ reminder alert box that appears when trauma CT opened on CRIS
Awareness of role of primary survey in management of trauma patients	Obtain feedback from Emergency department clinicians about effect of primary survey on management of trauma patients, and communicate this to radiologists

Conclusion

This project has shown an improvement in the primary survey inclusion rate for trauma CTs reported by local radiologists at Gloucester Royal Hospital, increasing from 0% to 40%. In order to reach the 50% target, there needs to be further promotion of the primary survey proforma in the Radiology department, incorporating regular reminders and feedback, to encourage engagement of local radiologists. Following this, the eventual objective is to include a primary survey report for all trauma CTs, to ensure every trauma patient benefits from the timely communication of serious injuries.

References
1. The Royal College of Radiologists. *Standards of Practice and Guidance for Trauma Radiology in Severely Injured Patients: The second edition*. London: The Royal College of Radiologists, September 2015. Ref no: BFCR(15)5
2. The ATLS Subcommittee, American College of Surgeon's Committee of Trauma, and the International ATLS working group. *Advanced Trauma Life Support (ATLS): The ninth edition.* Journal of Trauma and Acute Care Surgery: May 2013. 74(5); 1363-1366 Special Report