From Triage to Scanner to Report: Forming bridges between Radiology and the Emergency Department in an Urban Level 1 Trauma Center

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Authors and Disclosures

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- **Disclosures**
  - **None**

Introduction

- Workflow between radiology and emergency departments harbor inefficiencies
  - Discrepancy between implemented contrast and premedication policies and national, recommended standard of care
  - Lack of direct interdepartmental communication modalities
  - Unnecessary lag time between initial dictation and release of reports to ED
  - Unnecessary protocoling of routinely ordered ED studies
  - Ineffective patient recall system

Purpose

- **Purpose –** To explore the effect of refined communication and 24/7 radiology attending coverage on patient throughput between the radiology and emergency departments in an urban, Level 1 trauma center.

Methods

- **Analysis -** Examination of intradepartmental quality assurance metrics to identify contributing factors that led to inefficient turnaround of imaging studies ordered by the ED and suboptimal communication between the radiology and emergency departments.

- **Intervention**
  - 5 Point Plan was developed to rectify determined inefficiencies
  - Didactic lectures were given to educate radiology and emergency department faculty and residents on how to utilize radiology services
  - Implementation of 24/7 radiology attending coverage

- **Post-Intervention Analysis**
  - Average times of image study order to study protocoling were calculated
  - Average times of image acquisition to final report were calculated

Methods – 5 Point Plan

- **Point 1** – Revision of radiology department's contrast policy to align with national standard
  - Decrease the number of patients requiring time-intensive premedication regimens
  - Avoid unnecessary delays in care and ED turnaround time
- **Point 2** – Release of resident/ attending preliminary reports into EMR
  - Allow ED staff to access written reports
  - Improve communication of findings and decrease interdepartmental phone calls during call and other high volume periods
- **Point 3** – Dedicated mobile phone assigned to radiology resident for 24/7 coverage and communication
  - Allows for ease of contact and consultation between ED and radiology department
  - Designed for sole use of the ED and trauma services at any time, allows continuous 24/7 access to a radiology resident with texting capability

Methods – 5 Point Plan (Cont.)

- **Point 4** – Streamlined patient recall system
  - Allow for ease of patient recalls in the event of a discrepancy between preliminary and final interpretations of imaging studies
  - Utilized EMR for communication of report discrepancies with the ED and patient tracking
- **Point 5** – Automatic protocols for routine CTs ordered by the ED
  - Eliminate need for protocol for commonly ordered studies
  - Reduces workflow-disrupting interdepartmental phone calls for protocols
  - Improves patient turnaround in the ED

Results

	Mean time of Order to Protocol (Hrs)	Mean time of Image acquisition to final report (Hrs)
Pre-Interventions	1.5	14
Post-Interventions	0.5	8

Results (Cont.)

	Mean time of Image acquisition to final report (Hrs)
Pre 24/7 Attending Coverage	8
Post 24/7 Attending Coverage	2

Conclusions

- Interventions were found to lead to improved patient care and throughput within the ED
- Interventions led to more effective communication, collaboration, and rapport between the radiology and emergency departments
- All interventions were deployed with minimal change in interdepartmental infrastructure. Minimal staff training and education easily performed by didactic lectures at no cost.
- Many of the interventions can be readily adapted to other hospitals