Image Interpretation Disruptions During Resident Physician On Call Coverage

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Disclosures

• Harry G. Tsou Jr.
  – Nothing to disclose.

• Pranay Krishnan M.D.
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• Ross W. Filice M.D.
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Introduction

• **Background**
  – Frequent disruptions in reading room from various sources:
    • In Person Consultations
    • Phone Calls
    • Pages
  – Detrimental to speed and accuracy of image interpretation.

• **Significance**
  – Possible amplification of disruptions during periods of reduced staffing: overnight and weekends.

• **Objective**
  – Evaluate quantity and details of disruptions that occur during single radiology resident coverage of reading room.
Materials & Methods

• Study Design
  – Prospective observational quality study.
  – On-Call Radiology Reading Room, MedStar Georgetown University Hospital.

• Population
  – On-call Resident Radiologist Physicians.
Materials & Methods (cont.)

• Data Collection/Intervention
  – Direct observation of on-call resident physician during single coverage hours: 5PM-10PM.
  – Data organized in Microsoft Excel.

• Outcomes
  – Disruption modality, source of disruption, status during disruption, and duration.

• Basic statistical analysis was performed.
Results

- 187 disruption events in 40 hours.
- 167 (89%) occurred when a physician was actively interpreting a study.
- 52 (31%) of disruptions during study interpretation required the physician to stop interpretation and open a new study.
Results

Modality of Disruption

In Person: 85%
MS Teams: 10%
Phone Call: 5%
Results

Source of Disruption

- Emergency Room: 59%
- Inpatient: 23%
- Outpatient: 11%
- Radiology MD: 3%
- Radiologic Technologist: 2%
- Other: 2%
Results

Duration of Disruption

- <30 Seconds: 2%
- 30 Seconds - 2 Minutes: 14%
- 2 Minutes - 5 Minutes: 33%
- >5 Minutes: 51%
Discussion/Limitations

• Vast majority of disruptions occurred during active image interpretation.
  – Significant proportion required opening a new study and may introduce increased risk of image interpretation errors.
• Technologists identified as source of majority of disruptions.
• Implementation of virtual reading room software considered as solution.
  – Asynchronous software reduces intra-interpretation disruptions.
  – Extension of virtual reading room software to technologists may reduce disruption rate.
• Study was limited by single location of data collection and limited hours of data.
Conclusions

• There is a high prevalence of disruption during periods of single resident on-call coverage occurring during the interpretation of examinations.

• Future studies should evaluate the effects of semi-synchronous communication tools on disruption rate.