

A Prospective Study Evaluating Emergency Medicine Resident Competency and Satisfaction Following the Implementation of Rapid Radiology Training Sessions Over a 4-month Period

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TITLE: A Prospective Study Evaluating Emergency Medicine Resident Competency and Satisfaction Following the Implementation of Rapid Radiology Training Sessions Over a 4-month Period

Study Objectives: Radiology (X-ray, CT, MRI, etc.) and interpretation of those radiographic images plays a significant role in the emergency department (ED) due to the large variety of patient symptomatology. It is the emergency physician's responsibility to have the critical skills required to utilize and interpret the many imaging modalities available to them. However, despite the importance of radiographic image interpretation and utilization, emergency medicine (EM) residency training programs remain inadequate in providing a formal radiology curriculum to its residents. At present, there remains no formal curriculum for radiography interpretation that has been adopted by an accredited EM program, nor does the Accreditation Council for Graduate Medical Education (ACGME) define specific outcomes with respect to image interpretation and application. The goal of the present study is to provide a radiographic interpretation framework for the EM resident to improve competence and confidence as well as feelings of educational satisfaction. 28 emergency medicine residents will participate in a pre- and post-study survey and quiz, as well as be given 4 months of weekly radiology presentations. It is our hope that following this 4-month program, the EM resident will have improved quiz scores and overall educational satisfaction with regards to radiology training.

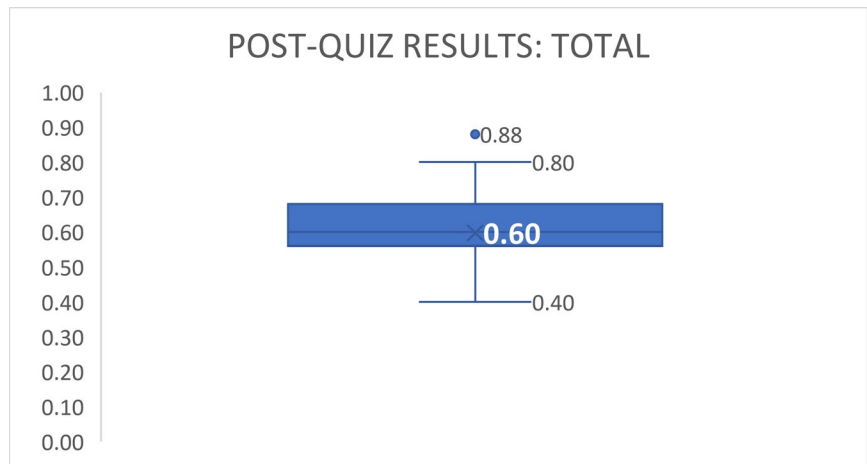
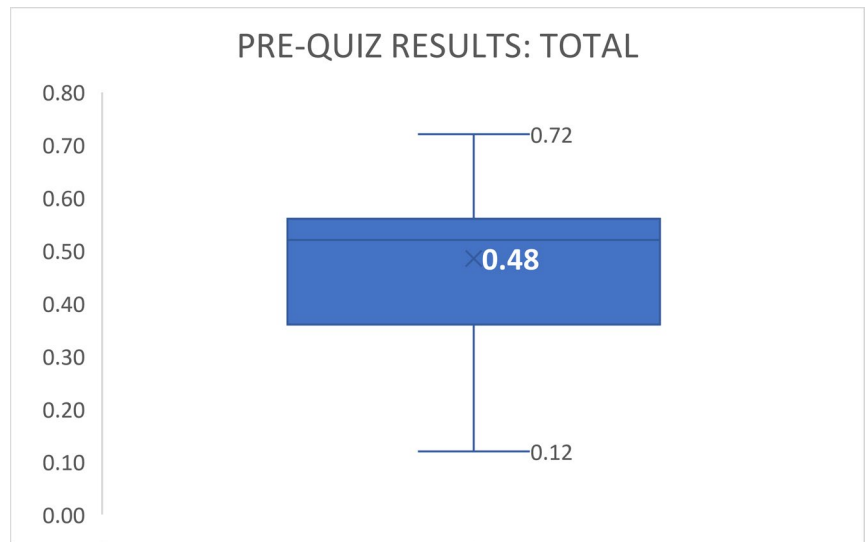
Primary objective: Improve emergency medicine resident radiographic interpretation skills as well as educational satisfaction through the use of weekly rapid radiology sessions over a 4-month period.

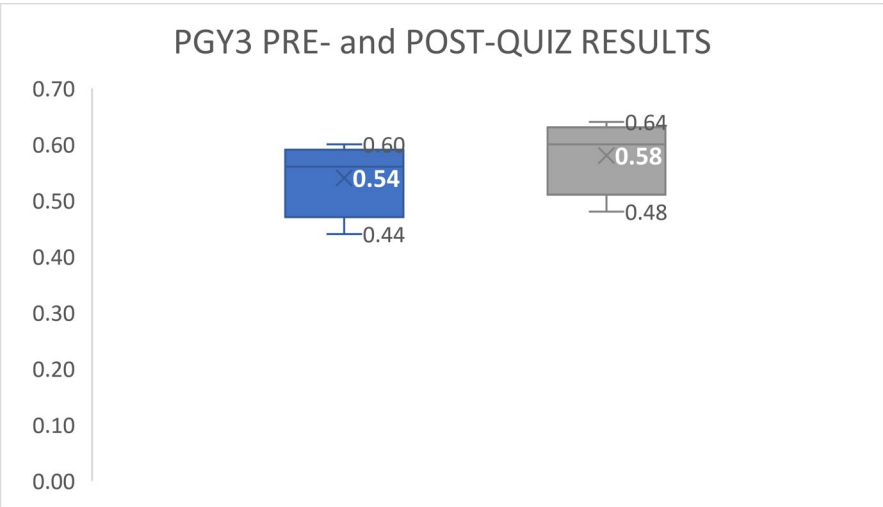
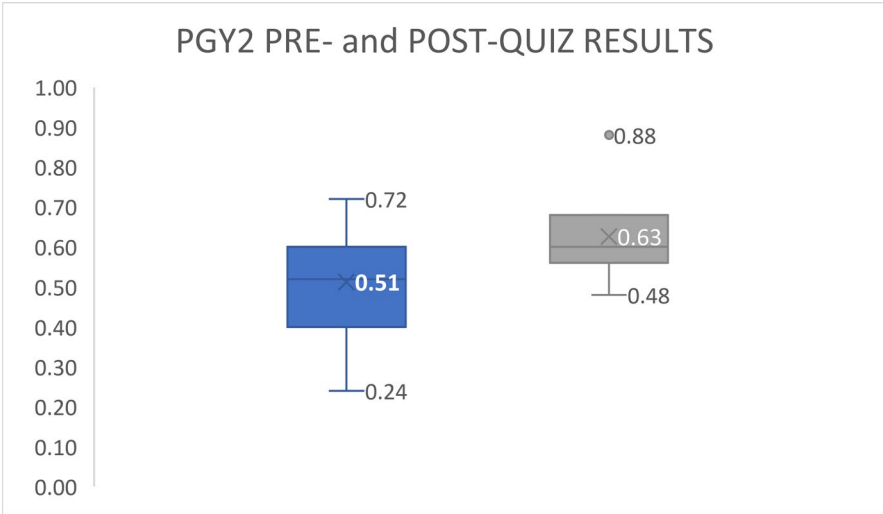
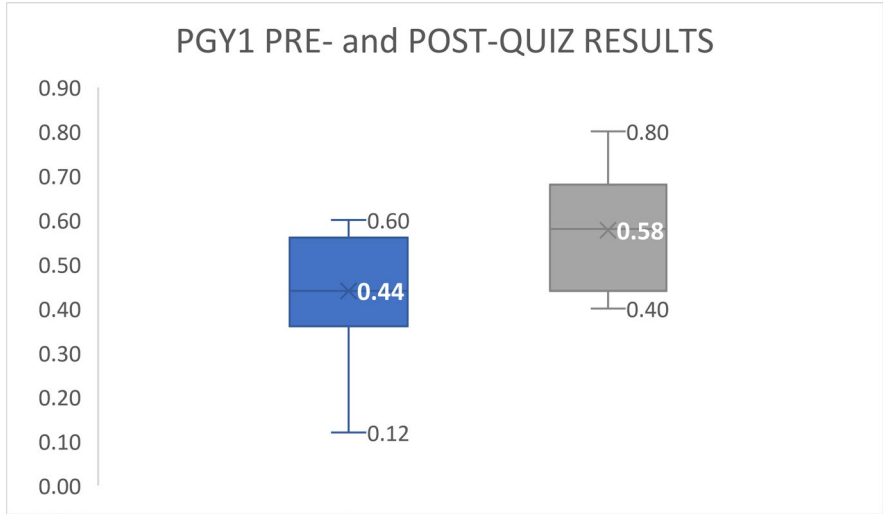
Methods: The proposed study is designed to evaluate and improve the emergency medicine resident's radiology interpreting competency. The duration of the study will be 4 months, from March 2022 – June 2022. The subjects of the study will be current residents located at Brandon Regional Hospital (BRH). Each resident will be assigned a number which will be unknown to the investigators. The identification number will allow the subjects to remain completely anonymous. Every Thursday morning, the BRH emergency medicine program has a scheduled academic day located in the GME conference room. Over the duration of the 4-month study period, there will be 5-minute radiology educational sessions during the academic day led by the study investigators. These sessions will include interpreting techniques and pearls for multiple imaging modalities (X-ray, CT, etc.) and their respective imaged body parts.

During the first session, the residents will be given both a quiz and a survey to fill out. The quiz will be 31 questions and the survey will be 10 questions. The residents will use their identification number on the quiz and survey to remain anonymous. The same quiz and survey will again be given at the end of the 4-month period. The quizzes and surveys will be compared and results will be analyzed.

Results:

TEST RESULTS: ALL SUBJECTS		
	Pre-Quiz Score	Post-Quiz Score
Subject 1	0.52	0.68
Subject 2	0.56	0.56
Subject 3	0.36	0.40
Subject 5	0.52	0.64
Subject 6	0.56	0.68
Subject 7	0.56	0.68
Subject 8	0.32	0.56
Subject 9	0.60	0.64
Subject 10	0.40	0.72
Subject 11	0.72	0.56
Subject 12	0.72	0.64
Subject 13	0.52	0.48
Subject 14	0.40	0.60
Subject 15	0.36	0.56
Subject 16	0.60	0.56
Subject 17	0.44	0.48
Subject 18	0.36	0.60
Subject 19	0.32	0.44
Subject 20	0.52	0.88
Subject 21	0.60	0.44
Subject 22	0.48	0.60
Subject 23	0.56	0.60
Subject 24	0.60	0.68
Subject 25	0.12	0.44
Subject 26	0.56	0.60
Subject 27	0.56	0.80
Subject 28	0.24	0.60
Average:	0.48	0.60





Conclusion: There is an obvious radiology gap in the emergency medicine residency curriculum. Based on the surveys performed in this study, the average resident, regardless of education level, feels their radiology education and individual radiology interpreting competency is lacking. This study showed that through brief weekly radiology educational

sessions, the average resident was able to improve their interpreting scores by 12%. Further, this study showed improvement in the residents perceived feelings of educational satisfaction and individual ability to interpret one's own images. Yearly implementation has the potential to significantly improve the emergency medicine resident's ability to accurately and confidently interpret radiographic images.