

Title:

Reducing ED Length of Stay: Designing an Evidence-Based Guideline for Oral Contrast Use in CTs

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Session Title:

Rising Stars of Research and Scholarship Invited Student Poster Session 1

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References:

Hlibczuk, V., Dattaro, J. A., J, Z., Falzon, L., & Brown, M. D. (2010, January). Diagnostic accuracy of noncontrast computed tomography for appendicitis in adults: A systematic review. *Annals of Emergency Medicine*, 55(1), 51-59. <http://dx.doi.org/10.1016/j.annemergmed.2009.06.509>

Hopkins, C. L., Madsen, T., Foy, Z., Reina, M., & Barton, E. (2012, November). Dose limiting oral contrast decrease emergency department length of stay? *Western Journal of Emergency Medicine*, 8(5), 383-387. <http://dx.doi.org/10.5811/westjem.2011.12.6748>

Levenson, R. B., Camacho, M. A., Horn, E., Saghir, A., McGillicuddy, D., & Sanchez, L. D. (2012). Elimination routine oral contrast use for CT in the emergency department: Impact on patient throughput and diagnosis. *Emergency Radiology*, 19, 513-517. <http://dx.doi.org/10.1007/s10140-012-1059-7>

Razavi, S. A., Johnson, J., Kassin, M. T., & Applegate, K. E. (2014). The impact of introducing a no oral contrast abdominopelvic CT examination (NOCAPE) pathway on radiology turnaround times, emergency department length of stay, and patient safety. *Emergency Radiology*, 21, 605-613. <http://dx.doi.org/10.1007/s10140-014-1240-2>

Schuur, J. D., Chu, G., & Sucov, A. (2010). Effect of oral contrast for abdominal computed tomography on emergency department length of stay. *Emergency Radiology*, 17, 267-273. <http://dx.doi.org/10.1007/s10140-009-0847-1>

Abstract Summary:

Prolonged emergency department length of stay has gained attention over the last several years. A significant contributor to lengthy ED visits is the use of Oral contrast in abdominopelvic CTs. An evidence-based guideline for the use of oral contrast was designed to improve efficiency while maintaining quality of the exam.

Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
Describe the process used for development of evidence-based guidelines	Review of the methodologies used to gather research and develop into guidelines format
Define populations within the emergency department that would benefit from the use of oral contrast compared to widespread use	Review of current evidence related to quality of exams and impact on ED length of stay

without sacrificing quality of exam or prolonging the ED visit	
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Abstract Text:

Purpose: Organizations should adopt evidence-based strategies to reduce ED length of stay and improve the overall patient experience. The purpose of this project was to construct an evidence based practice guideline to support the use of oral contrast in abdominopelvic CTs.

Relevance/Significance: Prolonged emergency department length of stay has gained attention and momentum in the healthcare arena over the last several years. ED crowding and inefficient processing of patients have negatively affected quality of care, leading to increased inpatient mortality, adverse events, lengthier inpatient stays, and increased overall resource use. ED length of stay metrics within the organization consistently performs below state and national benchmarks.

Strategy and Implementation: The use of oral and intravenous contrast agents for patients who present with abdominal pain and receive an abdominopelvic CT is the current standard of practice in the organization's ED. In the last decade, the use of oral contrast has become questionable in terms of distinct benefits to the quality of the exam. In many settings, providers use personal discretion to decide if oral contrast is truly beneficial. A systematic search was conducted to ascertain best practice. An interdisciplinary effort involving key stakeholders, including emergency medicine physicians, radiologists, general surgery and hospitalist providers, medical imaging technologists, and nursing and medical imaging leadership developed evidence-based guidelines for oral contrast use.

Evaluation: Baseline data for contrast use and cost was shared with the stakeholders. 60% of patients undergoing abdominopelvic CTs received oral contrast, increasing average ED length of stay (LOS) by approximately 2 hours. Elimination of unnecessary oral contrast administration should result in improved patient through-put, reduction in patients leaving without being seen and increased revenue.

Implications for Practice: The evidence-based guideline for oral contrast use in abdominopelvic CTs will improve ED efficiency while maintaining equivocal CT results. The next steps include implementation of the guideline with a possible research approach to demonstrate improved outcomes.

References:

Hlibczuk, V., Dattaro, J. A., J, Z., Falzon, L., & Brown, M. D. (2010, January). Diagnostic accuracy of noncontrast computed tomography for appendicitis in adults: A systematic review. *Annals of Emergency Medicine*, 55(1), 51-59. <http://dx.doi.org/10.1016/j.annemergmed.2009.06.509>

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