

<b>Literature Review/Grading Matrix</b>			
<b>Final Draft-Triage Nurse-Ordered Testing in the Emergency Department Setting Statement</b>			
<b>Table. Summary of the Findings</b>			
<b>Publication</b>	<b>Grade</b>	<b>Quality</b>	<b>Comments</b>
Douma MJ, Drake CA, O'Dochartaigh D, Smith KE. A Pragmatic Randomized Evaluation of a Nurse-Initiated Protocol to Improve Timeliness of Care in an Urban Emergency Department. <i>Ann Emerg Med.</i> 2016 Nov;68(5):546-552.	<b>A</b>	<b>Outstanding</b>	This was an RCT (n=143 patients) of 6 nurse-initiated protocols assessing time to diagnostic test, time to treatment, time to consultation, and ED LOS. ED LOS was reduced in suspected hip fracture, vaginal bleeding during pregnancy, lower abdominal pain, and upper abdominal pain. ED LOS was not different among suspected ischemic chest pain, but time to troponin was shorter in this group.
Oredsson S, Jonsson H, Rognes J, et al. A systematic review of triage-related interventions to improve patient flow in emergency departments. <i>Scand J Trauma Resusc Emerg Med.</i> 2011 Jul 19;19:43.	<b>A</b>	<b>Good</b>	This was a systematic review assessing the impact of nurse-initiated x-rays on LOS. The review identified 3 RCTs (n=2682 patients) which demonstrated a shorter overall LOS.
Thurston J, Field S. Should accident and emergency nurses request radiographs? Results of a multicentre evaluation. <i>J Accid Emerg Med.</i> 1996 Mar;13(2):86-9.	<b>A</b>	<b>Good</b>	This was an RCT (n=1833 patients) comparing triage nurse-ordered versus physician-ordered x-rays on ED LOS. There was a shorter ED LOS in the nurse-ordered x-ray group.
Lindley-Jones M, Finlayson BJ. Triage nurse requested x rays--are they worthwhile? <i>J Accid Emerg Med.</i> 2000 Mar;17(2):103-7.	<b>A</b>	<b>Good</b>	This was an RCT (n=612 patients) comparing triage nurse-ordered versus physician- or nurse practitioner-ordered x-rays on time to diagnosis. There was a shorter time to diagnosis in the nurse-ordered group.
Parris W, McCarthy S, Kelly AM, Richardson S. Do triage nurse-initiated X-rays for limb injuries reduce patient transit time? <i>Accid Emerg Nurs.</i> 1997 Jan;5(1):14-5.	<b>A</b>	<b>Adequate</b>	This was an RCT (n=175 patients) comparing nurse-initiated versus physician-initiated x-ray ordering on ED LOS. There was no statistically significant difference in ED LOS.

Lee KM, Wong TW, Chan R, Lau CC, Fu YK, Fung KH. Accuracy and efficiency of X-ray requests initiated by triage nurses in an accident and emergency department. <i>Accid Emerg Nurs.</i> 1996 Oct;4(4):179-81.	<b>C</b>	<b>Adequate</b>	This was a prospective, observational study (n=934 patients) comparing nurse-initiated x-ray versus physician-ordered x-ray to determine correlation and impact on LOS. Physicians disagreed with ordering an x-ray in 5.4% of cases and recommended ordering x-rays that weren't ordered in 5.5%. Overall LOS was shorter in the nurse-initiated x-ray group.
Ropp L, Blouin R, Dulberg C, Li M. Radiograph ordering: agreement between the triage nurse and the physician in a pediatric emergency department. <i>J Emerg Med.</i> 1990 Nov-Dec;8(6):697-700.	<b>C</b>	<b>Adequate</b>	This was a prospective study (n=861 patients) asking nurses to predict whether an x-ray is indicated for a given patient and compared with physician-ordering. Nurse-ordered x-rays were consistent with physician-ordered testing in 87.1% of cases.
Seaberg DC, MacLeod BA. Correlation between triage nurse and physician ordering of ED tests. <i>Am J Emerg Med.</i> 1998 Jan;16(1):8-11.	<b>C</b>	<b>Adequate</b>	This was a prospective study comparing both nurse-initiated (n=167 patients) and protocol-based (n=341 patients) lab and imaging protocols with physician decision. There was a moderate correlation for blood testing (k = 0.48 and 0.54) and a significant correlation for x-ray (k = 0.68 and 0.65) and urinalysis (k = 0.76 and 0.67).
Patel H, Celenza A, Watters T. Effect of nurse initiated X-rays of the lower limb on patient transit time through the emergency department. <i>Australas Emerg Nurs J.</i> 2012 Nov;15(4):229-34.	<b>C</b>	<b>Adequate</b>	This was a prospective study of nurse-ordered x-rays (n=101 patients) compared with a historical control of physician-ordered x-rays (n=105 patients) assessing ED LOS. There was no statistically significant difference in ED LOS.
Retezar R, Bessman E, Ding R, Zeger SL, McCarthy ML. The effect of triage diagnostic standing orders on emergency department treatment time. <i>Ann Emerg Med.</i> 2011 Feb;57(2):89-99.	<b>D</b>	<b>Good</b>	This was a retrospective study (n=15,188 patients) comparing a full or partial triage-ordered standing order set versus physician-ordered for chest pain, shortness of breath, abdominal pain, and genitourinary complaints assessing ED LOS. Triage-ordered testing resulted in a decreased ED LOS.
Li Y, Lu Q, Du H, Zhang J, Zhang L. The Impact of Triage Nurse-ordered Diagnostic Studies on	<b>D</b>	<b>Poor</b>	This was a retrospective study (n=116,202) comparing triage nurse-ordered versus physician-ordered testing on ED LOS. There

Pediatric Emergency Department Length of Stay. Indian J Pediatr. 2018 Oct;85(10):849-854.			was a decreased ED LOS in the triage nurse-ordered x-ray group.
Cheung WW, Heeney L, Pound JL. An advance triage system. Accid Emerg Nurs. 2002 Jan;10(1):10-6.	<b>D</b>	<b>Poor</b>	This was a retrospective study (n=250 patients) comparing an array of nurse-initiated lab and imaging protocols with a group receiving standard evaluation assessing LOS. LOS was shorter in the nurse-initiated lab and imaging group.
Hwang CW, Payton T, Weeks E, Plourde M. Implementing Triage Standing Orders in the Emergency Department Leads to Reduced Physician-to-Disposition Times. Adv Emerg Med. 2016;7213625:1-6.	<b>D</b>	<b>Poor</b>	This was a retrospective study (n=155 patients) comparing a triage nurse-ordered chest pain order set with standard care for ED LOS. The triage nurse-ordered chest pain order set resulted in an increased ED LOS.

RCT, randomized controlled trial; LOS, length of stay

## References

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