



**TITLE: Prioritization of Care in the Emergency Department using Alternate Triage Strategies: Effectiveness and Guidelines**

**DATE:** 16 July 2010

**RESEARCH QUESTIONS:**

1. What is the effectiveness and safety of triage strategies other than the Canadian Triage and Acuity Scale to expedite treatment of patients presenting to the emergency department?
2. What are the guidelines for the use of alternate triage strategies in the emergency department?

**METHODS:**

A limited literature search was conducted on key health technology assessment resources, including PubMed, the Cochrane Library (Issue 7, 2010), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI (Health Devices Gold), EuroScan, international health technology agencies, and a focused Internet search. The search was limited to English language articles published between January 1, 2005 and July 9, 2010. Filters were applied to limit the retrieval to health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, and guidelines. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

**RESULTS:**

HTIS reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials (RCTs) and evidence-based guidelines.

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The literature search identified three systematic reviews and one RCT on the effectiveness and safety of alternate triage strategies to expedite the treatment of patients presenting to the emergency department (ED). No health technology assessments or evidence-based guidelines were identified. Additional information, including non-randomized studies on fast-tracking and alternate triage strategies, is provided in the appendix.

### **OVERALL SUMMARY OF FINDINGS:**

Three systematic reviews were identified. All three reviews cite the lack of high quality evidence available.<sup>1-3</sup> Brabrand et al.<sup>1</sup> report on 10 scoring systems used as triaging tools. All the scoring systems have weaknesses and further research is needed before implementing them, but no details of the systems are provided in the abstract. Wilson et al.<sup>2</sup> examine the clinical effectiveness of nurse practitioners in the ED for assessment, treatment, and management of minor injuries in adults (categories 3 to 5 of the Australian Triage System). The use of nurse practitioners is judged to be as clinically effective as that of junior doctors for management and treatment of minor injuries in adults. Guo et al.<sup>3</sup> find strategies that improve ED throughput include addition of a faculty member for triaging, and initiation of appropriate diagnostic tests by a triage nurse.

Evidence from the identified RCT<sup>4</sup> shows that the addition of a triage liaison physician to initiate patient management, assist triage nurses, answer medical consults, and manage ED administrative matters, can result in decreased length of stay and fewer patients who leave the ED without assessment, thus improving outcomes in overcrowded EDs.

**REFERENCES SUMMARIZED:**

**Health technology assessments**

No literature identified

**Systematic reviews and meta-analyses**

1. Brabrand M, Folkestad L, Clausen NG, Knudsen T, Hallas J. Risk scoring systems for adults admitted to the emergency department: a systematic review. *Scand J Trauma Resusc Emerg Med* [Internet]. 2010 Feb 11 [cited 2010 Jul 9];18:8. [PubMed: PM20146829](#)  
Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2835641/pdf/1757-7241-18-8.pdf>
2. Wilson A, Zwart E, Everett I, Kernick J. The clinical effectiveness of nurse practitioners' management of minor injuries in an adult emergency department: a systematic review. *Int J Ev-Based Healthcare* [Internet]. 2009 [cited 2010 Jul 9];7: 3-14. Structured abstract available from:  
<http://www.crd.york.ac.uk/crdweb/ShowRecord.asp?LinkFrom=OAI&ID=12009104260>
3. Guo B, Harstall C. Strategies to reduce emergency department overcrowding [Internet]. Edmonton: Alberta Heritage Foundation for Medical Research (AHFMR); 2006 [cited 2010 Jul 9]. Available from: [http://www.ihe.ca/documents/HTA\\_Report\\_38.pdf](http://www.ihe.ca/documents/HTA_Report_38.pdf)  
Structured abstract available from:  
<http://www.mrw.interscience.wiley.com/cochrane/clhta/articles/HTA-32006000677/frame.html>

**Randomized controlled trials**

4. Holroyd BR, Bullard MJ, Latoszek K, Gordon D, Allen S, Tam S, et al. Impact of a triage liaison physician on emergency department overcrowding and throughput: a randomized controlled trial. *Acad Emerg Med*. 2007 Aug;14(8):702-8. [PubMed: PM17656607](#)

**Guidelines and recommendations**

No literature identified

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**APPENDIX – FURTHER INFORMATION:**

**Systematic reviews and meta-analyses**

5. Bond K, Ospina M, Blitz S, Friesen C, Innes G, Yoon P, et al. Interventions to reduce overcrowding in emergency departments [Internet]. Ottawa: Canadian Agency for Drugs and Technologies in Health (CADTH) 2006: 41p. [cited 2010 Jul 9]. Available from: Structured abstract available from:  
[http://www.cadth.ca/media/pdf/320d\\_overcrowding\\_tr e no-appendices.pdf](http://www.cadth.ca/media/pdf/320d_overcrowding_tr e no-appendices.pdf) See triage p. 18  
Structured abstract available from:  
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**Non-randomized studies**

6. Devkaran S, Parsons H, Van Dyke M, Drennan J, Rajah J. The impact of a fast track area on quality and effectiveness outcomes: a Middle Eastern emergency department perspective. BMC Emerg Med [Internet]. 2009 [cited 2010 Jul 9];9:11. [PubMed: PM19534787](#) Available from:  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2703617/pdf/1471-227X-9-11.pdf>
7. Olofsson P, Gellerstedt M, Carlström ED. Manchester Triage in Sweden - interrater reliability and accuracy. Int Emerg Nurs. 2009 Jul;17(3):143-8. [PubMed: PM19577200](#)
8. Steiner IP, Nichols DN, Blitz S, Tapper L, Stagg AP, Sharma L, et al. Impact of a nurse practitioner on patient care in a Canadian emergency department. CJEM [Internet]. 2009 May [cited 2010 Jul 9];11(3):207-14. [PubMed: PM19523269](#) Available from:  
<http://www.cjem-online.ca/sites/default/files/pg207%281%29.pdf>
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[http://www.lwwpartnerships.com/assets/files/Triage\\_with\\_the\\_French\\_Emergency\\_Nurses\\_1.pdf](http://www.lwwpartnerships.com/assets/files/Triage_with_the_French_Emergency_Nurses_1.pdf)
10. Bruijns SR, Wallis LA, Burch VC. Effect of introduction of nurse triage on waiting times in a South African emergency department. Emerg Med J. 2008 Jul;25(7):395-7. [PubMed: PM18573946](#)
11. van der Wulp I, van Baar ME, Schrijvers AJ. Reliability and validity of the Manchester Triage System in a general emergency department patient population in the Netherlands: results of a simulation study. Emerg Med J. 2008 Jul;25(7):431-4. [PubMed: PM18573959](#)
12. van Veen M, Steyerberg EW, Ruige M, van Meurs AH, Roukema J, van der Lei J, et al. Manchester triage system in paediatric emergency care: prospective observational study. BMJ [Internet]. 2008 [cited 2010 Jul 9];337:a1501. [PubMed: PM18809587](#) Available from:  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2548283/pdf/bmj.a1501.pdf>

13. Lyons M, Brown R, Wears R. Factors that affect the flow of patients through triage. *Emerg Med J* [Internet]. 2007 Feb [cited 2010 Jul 9];24(2):78-85. [PubMed: PM17251608](#)  
Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2658212/pdf/78.pdf>
14. Darrab AA, Fan J, Fernandes CM, Zimmerman R, Smith R, Worster A, et al. How does fast track affect quality of care in the emergency department? *Eur J Emerg Med*. 2006 Feb;13(1):32-5. [PubMed: PM16374246](#)
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#### **Guidelines and recommendations (guideline methodology not stated)**

16. Guidelines on the implementation of the Australasian triage scale in emergency departments [Internet]. Melbourne: Australasian College for Emergency Medicine; 2005. [cited 2010 Jul 9]. Available from: [http://www.acem.org.au/media/policies\\_and\\_guidelines/G24\\_Implementation\\_ATS.pdf](http://www.acem.org.au/media/policies_and_guidelines/G24_Implementation_ATS.pdf)

#### **Review articles**

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18. Shelton R. The Emergency Severity Index 5-level triage system. *Dimens Crit Care Nurs*. 2009 Jan;28(1):9-12. [PubMed: PM19104244](#)

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20. ED's turnaround time cut by almost 30 minutes. *ED Manag*. 2009 Mar;21(3):32-3. [PubMed: PM19275061](#)
21. ED slashes average wait time by more than an hour. *ED Manag*. 2009 Mar;21(3):30-1. [PubMed: PM19275060](#)
22. Care initiation area yields dramatic results. *ED Manag*. 2009 Mar;21(3):28-9. [PubMed: PM19275059](#)
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