NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

Centre for Clinical Practice

Review consultation document

Review of Clinical Guideline CG50 - Acutely ill patients in hospital

1. Background information

Guideline issue date: 2007
3 year review: 2010
National Collaborating Centre: Short Clinical Guidelines -Centre for Clinical Practice (NICE)

2. Consideration of the evidence

Literature search

From initial intelligence gathering and a high-level randomised control trial (RCT) search clinical areas were identified to inform the development of clinical questions for focused searches. Through this stage of the process 27 studies were identified relevant to the guideline scope. The identified studies were related to the following clinical areas within the guideline:

- Parameters for physiological track and trigger systems.
- The sensitivity and specificity of track and trigger systems.
- Clinical and cost-effectiveness of different critical care outreach services.

The latter two clinical areas are also the research recommendations in the guideline.
Four review questions were developed based on the clinical areas above, qualitative feedback from other NICE departments and the views expressed by the Guideline Development Group, for the more focused literature searches. The results of the focused searches are summarised in the table below. All references identified through the initial intelligence gathering, high-level RCT search and the focused searches can be viewed in Appendix I.
**Clinical area 1: Parameters for physiological track and trigger system**

<table>
<thead>
<tr>
<th>Clinical question</th>
<th>Summary of evidence</th>
<th>Relevance to guideline recommendations</th>
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<tbody>
<tr>
<td>Can physiological track and trigger correctly identify patients who are either deteriorating or at risk of deteriorating? Are there any parameters in addition to those considered in the guideline (heart rate, respiratory rate, systolic BP, levels of consciousness, oxygen saturation and temperature)?</td>
<td>Through the focused search seven studies relevant to the clinical question were identified. Serum lactate measurement appeared to be one of the potential parameters in addition to those already considered in the guideline. However, the current body of evidence does not seem to be conclusive about its predictive accuracy and generalisability.</td>
<td>No conclusive evidence was identified that would invalidate current guideline recommendations.</td>
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### Clinical area 2: The sensitivity and specificity of track and trigger system

<table>
<thead>
<tr>
<th>Clinical question</th>
<th>Summary of evidence</th>
<th>Relevance to guideline recommendations</th>
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<tbody>
<tr>
<td>What is the sensitivity and specificity of track and trigger systems?</td>
<td>Through the focused search twelve studies relevant to the clinical question were identified. The utility of aggregate weighted multiple parameters track and trigger system was one of the principle emergent themes, and studies including a systematic review of literature suggest that physiological parameters can be used. Among the evidence reviewed, there were still wide variations in sensitivity and specificity of different types of single or multiple parameters track and trigger systems, and currently there is still no direct comparative study on the accuracy of different systems. In conclusion, there is still insufficient evidence to warrant an update.</td>
<td>No conclusive evidence was identified that would invalidate current guideline recommendations.</td>
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Clinical area 3: Clinical and cost effectiveness of different critical care outreach services.

<table>
<thead>
<tr>
<th>Clinical question</th>
<th>Summary of evidence</th>
<th>Relevance to guideline recommendations</th>
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<tbody>
<tr>
<td>Does provision of critical care outreach service improve the outcome for patients who are at risk of deteriorating and/or deteriorating in hospital settings?</td>
<td>Through the focused search twenty six studies relevant to the clinical question were identified. Literature was identified evaluating the effectiveness of response strategies such as critical care outreach services and Medical Emergency Team (MET). However, all new evidence was still inconclusive in terms of its effectiveness, and there was still no evidence on direct comparisons of different service configurations of response strategies.</td>
<td>No conclusive evidence was identified that would invalidate current guideline recommendations.</td>
</tr>
<tr>
<td>Clinical question</td>
<td>Summary of evidence</td>
<td>Relevance to guideline recommendations</td>
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<tr>
<td>What is the cost effectiveness of critical care outreach service to improve the outcome for patients who are at risk of deteriorating and/or deteriorating in hospital settings?</td>
<td>No relevant literature identified</td>
<td>No evidence was identified that would invalidate current guideline recommendations.</td>
</tr>
</tbody>
</table>
In conclusion, no identified new evidence contradicts current guideline recommendations.

**Guideline Development Group and National Collaborating Centre perspective**

A questionnaire was distributed to GDG members and guideline development team to consult them on the need for an update of the guideline. Two GDG members responded highlighting implementation issues. There appears to have been a variation in uptake of the recommendations in various settings, with some recommendations being implemented more thoroughly than others.

The scope of Guideline was considered to be adequate in its exclusions.

Both respondents stated that there is insufficient variation in current practice supported by adequate evidence at this time to warrant an update of the current guideline.

**Implementation and post publication feedback**

No new evidence was identified through post publication enquiries or implementation feedback that would indicate a need to update the guideline.

**Relationship to other NICE guidance**

The following NICE guidance is related to CG50:

<table>
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<tr>
<th>Guidance</th>
<th>Review date</th>
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<tr>
<td>CG83: Rehabilitation after critical illness, 2009</td>
<td>Expected review date: TBC.</td>
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Anti-discrimination and equalities considerations

No evidence was identified to indicate that the guideline scope does not comply with anti-discrimination and equalities legislation. The original scope is inclusive of all adult patients in hospital, including patients in the Emergency Department and those in transition.

Conclusion

Through the process no additional areas were identified which were not covered in the original guideline scope or would indicate a significant change in clinical practice. There are no factors described above which would invalidate or change the direction of current guideline recommendations. The Acutely ill patients in hospital guideline should not be updated at this time.

3. Review recommendation

The guideline should not be considered for update at this time.

The guideline will be reviewed again according to current processes.

Centre for Clinical Practice
8 November 2010
Appendix I


Arashin, K.A. 2010. Using the synergy model to guide the practice of rapid response teams. DCCN - Dimensions of Critical Care Nursing, 29, (3) 120-124


Barbetti, J. & Lee, G. 2008. Medical emergency team: a review of the literature. [Review] [38 refs]. Nursing in Critical Care, 13, (2) 80-85


Brabrand, M., Folkestad, L., Clausen, N.G., Knudsen, T., & Hallas, J. 2010. Risk scoring systems for adults admitted to the emergency department: a systematic review. [Review] [26 refs]. Scandinavian Journal of Trauma, Resuscitation & Emergency Medicine, 18, 8

Buist, M., Harrison, J., Abaloz, E., & Van, D.S. 2007. Six year audit of cardiac arrests and medical emergency team calls in an Australian outer metropolitan teaching hospital. BMJ, 335, (7631) 1210-1212

Cei, M., Bartolomei, C., & Mumoli, N. 2009. In-hospital mortality and morbidity of elderly medical patients can be predicted at admission by the Modified Early Warning Score: a prospective study. *International Journal of Clinical Practice*, 63, (4) 591-595


Jones, D. & Bellomo, R. 2006. Introduction of a rapid response system: why we are glad we MET. *Critical Care (London, England)*, 10, (1) 121


Mulligan, A. 2010. Validation of a physiological track and trigger score to identify developing critical illness in haematology patients. *Intensive & Critical Care Nursing*, 26, (4) 196-206


Odell, M. 2010. Are early warning scores the only way to rapidly detect and manage deterioration?. [Review] [25 refs]. *Nursing Times*, 106, (8) 24-26


Ranji, S.R., Auerbach, A.D., Hurd, C.J., O'Rourke, K., & Shojania, K.G. 2007. Effects of rapid response systems on clinical outcomes: systematic review and meta-analysis. [Review] [56 refs]. *Journal of Hospital Medicine (Online)*, 2, (6) 422-432


Tarassenko, L., Hann, A., & Young, D. 2006. Integrated monitoring and analysis for early warning of patient deterioration. *British Journal of Anaesthesia*, 97, (1) 64-68


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Reference by Implementation team


Relevant Clinical Trials (Awaiting publication)

The Prevention of Failure to Rescue" Using Early Warning Scoring (VitalCare)

Recently completed (07/2010)