RESEARCH QUESTIONS

1. What is the clinical evidence regarding the accuracy, sensitivity, and reliability of non-contact infrared thermometers compared to the use of temporal artery core temperature or rectal thermometers for pediatric patients?

2. What is the clinical evidence regarding the safety of non-contact infrared thermometers for pediatric patients?

KEY FINDINGS

Five non-randomized studies regarding the clinical evidence for the accuracy, sensitivity and reliability of non-contact infrared thermometers compared to the use of temporal artery core temperature or rectal thermometers for pediatric patients were identified.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2014, Issue 10), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2009 and October 7, 2014. Internet links were provided, where available.

SELECTION CRITERIA

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.
Table 1: Selection Criteria

<table>
<thead>
<tr>
<th>Population</th>
<th>Pediatric patients</th>
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<tr>
<td>Intervention</td>
<td>Non-contact infrared thermometers, excluding infrared ear thermometers</td>
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| Comparator          | Q1: temporal artery core temperature thermometers, rectal thermometers  
|                     | Q2: no comparator or other types of thermometers |
| Outcomes            | Clinical accuracy, sensitivity and reliability of temperature measurement, clinical benefit or harm, infection control/cross-contamination & transmission |
| Study Designs       | Health technology assessment reports, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, and evidence-based guidelines. |

RESULTS

Rapid Response 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, non-randomized studies, and evidence-based guidelines.

Five non-randomized studies regarding the clinical evidence for the accuracy, sensitivity and reliability of non-contact infrared thermometers compared to the use of temporal artery core temperature or rectal thermometers for pediatric patients were identified. No relevant health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, or evidence-based guidelines were identified.

Additional references of potential interest are provided in the appendix.

Health Technology Assessments
No literature identified.

Systematic Reviews and Meta-analyses
No literature identified.

Randomized Controlled Trials
No literature identified.

Non-Randomized Studies


Guidelines and Recommendations
No literature identified.

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APPENDIX – FURTHER INFORMATION:

Non-Randomized Studies – Alternate Comparator


Reviews

See: Previous Research - Accuracy compared to existing technology, page 4.