Non-contact infrared thermometers compared with current approaches in primary care for children aged 5 years and under: a method comparison study

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Plain English summary

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Plain English summary

General practitioners commonly measure children's temperature using a thermometer placed in the armpit or ear canal. New 'non-contact' thermometers use infrared light to measure temperature without touching the child. They are easy to use and there is no risk of passing on infections. However, we do not know how well they measure temperature compared with thermometers that use the armpit or the ear.

This study aimed to compare two non-contact thermometers with current thermometers. We measured children's temperature with all thermometer types, and asked children and their parents about their views.

The study was performed in general practices in Oxfordshire with children aged ≤ 5 years who had come to see their general practitioner because they had recently become unwell.

Both the cheaper and more expensive non-contact thermometers gave slightly lower temperature readings on average than current thermometers. The vast majority of readings ranged from 1.6 °C lower to 1.3 °C higher than current thermometers. The detection of fever of at least 38 °C was low to moderate for both non-contact thermometers.

Most parents did not think that their child was distressed by having their temperature taken using any of the thermometers, but the armpit thermometer was rated as the least comfortable. When interviewed, parents were more negative about the armpit thermometers, although still willing to use them if they were recommended by doctors.

Although we found that the readings from the different thermometers did not match, we do not know whether the non-contact or the current thermometers were giving readings that were closer to the real temperature of the child. To understand this, we would need to do a study that included a more invasive procedure for temperature assessment.

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This report

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