

Ear thermometry is unreliable for detecting fever

Clinical question How reliable is ear thermometry for detecting fever in children?

Bottom line Ear thermometry will only detect approximately two thirds of febrile children. Although it is fast and easy, the use of ear thermometry should be limited to those situations in which it does not matter if fever is present.

Synopsis In 2002, these researchers published a systematic review (*Lancet* 2002;360:603-609) that demonstrated wide variability in the agreement between ear thermometry and rectal thermometry in children. In this study, they used the same review to determine the reliability of ear thermometry in detecting fever in children. To do this, they systematically searched numerous databases and tried to find unpublished studies. Two authors independently assessed the quality of the 23 included studies (of nearly 4,100 children) and two authors independently extracted the data.

The sensitivity of ear thermometry ranged from zero to 100 per cent. The specificity ranged from 58 per cent to 100 per cent. The most conservative pooled estimates, however, were 64 per cent and 95 per cent, respectively. In other words, ear thermometry is not very reliable in detecting fever.

Level of evidence 1a– (systematic review of randomised controlled trials with worrisome heterogeneity)

Reference Dodd SR, Lancaster GA, Craig JV, Smyth RL, Williamson PR. In a systematic review, infrared ear thermometry for fever diagnosis in children finds poor sensitivity. *Journal of Clinical Epidemiology* 2006;59:354-357.

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