

# Use rectal thermometer for accurate assessment of body temperature

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Evidence shows that peripheral thermometers, or those that can be used orally or under the arm, have poor accuracy compared with central thermometers, or those that can be used rectally or at other intravascular sites. The systematic evidence review and meta-analysis is published in *Annals of Internal Medicine*.

Body temperature is commonly used to screen patients for infectious diseases, establish diagnoses, monitor therapy, and guide management decisions; therefore accurate assessment is important. Central thermometers are considered the gold standard. The accuracy of peripheral thermometers is not well-defined.

Researchers reviewed 75 published studies to determine whether peripheral thermometers have clinically acceptable accuracy when compared with central thermometers in adults and children and whether the type of peripheral thermometer used affects accuracy. They found that peripheral thermometers have poor clinical [accuracy](#) and poor sensitivity for detecting low-grade fever compared with central thermometers.

The researchers suggest that clinicians consider using central thermometers when accurate measurement of a patient's temperature will influence diagnosis and management. Rectal thermometers could be used for most of these patients, and bladder thermometers could be used for those requiring a bladder catheter. When a central thermometer is best avoided, tympanic membrane [thermometers](#) (for use in adults and

children) that are calibrated before use seem to be the best alternative.

**More information:** *Annals of Internal Medicine*,  
[www.annals.org/article.aspx?doi=10.7326/M15-1150](http://www.annals.org/article.aspx?doi=10.7326/M15-1150)

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