

MEDICAL NEWS BLOG

National

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New Study Finds Temporal Artery Thermometers Superior

Exergen Corporation, an internationally respected innovator and manufacturer of a line of patented infrared thermometers for professional and consumer use, announced the publication of an independent study comparing the accuracy and precision of all non-invasive temperature measurement methods in a critical care setting. Published in the September issue of the American Journal of Critical Care by Lari Lawson, R.N., M.N.; Elizabeth J. Bridges, R.N. PhD., C.C.R.N.; Janie Shively, R.N. B.S.N.; and Vanessa Sochulak, R.N., B.S.N, the study found that temporal artery and oral thermometers registered temperatures more accurately than other non-invasive methods when compared to core body temperature.

The study took place at the University of Washington Medical Centers in Seattle over a six month period. It compared the pulmonary artery temperature of 60 adults (with pulmonary artery catheters in place because of critical need) with temporal artery, oral, ear-based and axillary thermometers. The study's purpose was to describe the accuracy and precision of four noninvasive methods compared with core body temperature. It was the first study to compare the entire four non-invasive thermometer methods together.

The results showed that temporal artery and oral temperature measurements agreed most closely with the pulmonary artery temperature. Axillary measurements underestimated pulmonary artery temperature. Ear measurements were least accurate and precise. It was also noted that patient intubation (use of a respirator) affected the accuracy of oral measurements; diaphoresis (perspiration) and airflow across the face were noted as conditions that could affect temporal artery measurement. However, the study also showed that a combined forehead and behind-the-ear method gave more accurate readings than temporal artery measurements obtained from the forehead alone. This latest study showed that the combined forehead and behind-the-ear method had the greatest accuracy of all.

The Lawson study is the 24th peer-reviewed abstract or full study on temporal artery thermometers since the product was introduced in 2000. Exergen's TemporalScanner™, available for consumer or professional use, is the world's first temporal artery thermometer, delivering an accurate temperature comparable to one taken rectally in two seconds, and is protected by 11 issued U.S. patents with further U.S. and foreign patents pending.