Temperature Rising...Accuracy of Axillary Temperatures: Looking at the Evidence
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**Problem:** It was noted that the nursing staff did not use the correct techniques for the available equipment to obtain an accurate temperature on each patient. Inconsistent practice across nursing units was also noted as a problem. Our PICO question was: Among pediatric patients at CCHMC having axillary temperatures taken is the chemical dot vs. digital electronic thermometer more accurate, efficient, cost effective and able to maintain infection control standards.

**Evidence:** Key words used: temperature, thermometer, axillary and pediatric. Data bases searched: CINAHL, Medline, Cochrane databases. Twenty-eight studies were identified. Seven of the studies provided answers for the clinical question. The quality levels for the 7 articles and a moderate grade for the body of evidence was identified.

**Strategy:** The ACE Star Model of Knowledge Transformation and Rogers. Diffusion of Innovation Model were used to link change of technique and equipment used to acquire axillary temperature measurements in the clinical areas with the evidence.

**Practice Change:** Implement a procedural change in the hospital for acquiring axillary temperatures. This would include using each piece of equipment correctly, and improving consistency in the choice of equipment across the institution.

**Evaluation:** We plan to measure standardization of equipment used to measure temperatures, accuracy, cost savings and decreased microbial load.

**Results:** Preliminary results are anticipated in June.

**Recommendations:** Preliminary recommendation is that chemical dot thermometers be used to maintain accuracy, pending final cost and infection control analysis.

**Lessons Learned:** Changing nursing practice is a daunting task and requires dedication and patience.

**Bibliography:**
Nimah, M., Bshesh. (2006). Infrared tympanic thermometry in comparison with other temperature measurement techniques in febrile children. Pediatric Critical Care Medicine, 7(1), 48-55.
Rajee, M., & Sultana. (2006). Nextemp thermometer can be used interchangeably with tympanic or mercury thermometers for emergency department use. Emergency Medicine Australasia, 18, 245-251.