temporal artery, or skin route (Box 4-9). For the ill child, other sites for temperature measurement have been investigated. The pulmonary artery is the closest to the hypothalamus and best reflects the core temperature (Batra, Saha, and Faridi, 2012). Other sites used are the distal esophagus, urinary bladder, and nasopharynx (Box 4-10). All of these methods are invasive and difficult to use in clinical practice. One of the most important influences on the accuracy of temperature is improper temperature-taking technique. Detailed discussion of temperature-taking methods and visual examples of proper techniques are given in Table 4-3. For a critical review of the evidence on temperature taking methods, see the Evidence-Based Practice box.

Translating Evidence into Practice

Temperature Measurement in Pediatrics

Ask the Question

PICOT Question

In infants and children, what is the most accurate method for measuring temperature in febrile children?

Search for the Evidence

Search Strategies

Clinical research studies related to this issue were identified by searching for English publications within the past 15 years for infant and child populations; comparisons with gold standard: rectal thermometry.

Databases Used

PubMed, Cochrane Collaboration, MD Consult, Joanna Briggs Institute, National Guideline Clearinghouse (AHRQ), TRIP Database Plus, PedsCCM, BestBETs

Critical Appraisal of the Evidence

- **Rectal temperature:** Rectal measurement remains the clinical gold standard for the precise diagnosis of fever in infants and children compared with other methods (Fortuna, Carney, Macy, et al,