2010; Holzhauer, Reith, Sawin, et al, 2009). However, this procedure is more invasive and is contraindicated for infants younger than 1 month old due to risk of rectal perforation (Batra, Saha, and Faridi, 2012). Children with recent rectal surgery, diarrhea, or anorectal lesions, or who are receiving chemotherapy (cancer treatment usually affects the mucosa and causes neutropenia) should not undergo rectal thermometry.

- **Oral temperature (OT):** OT indicates rapid changes in core body temperature, but accuracy may be an issue compared with the rectal site (Batra, Saha, and Faridi, 2012). OTs are considered the standard for temperature measurement (Gilbert, Barton, and Counsell, 2002) but they are contraindicated in children who have an altered level of consciousness, are receiving oxygen, are mouth breathing, are experiencing mucositis, had recent oral surgery or trauma, or are younger than 5 years old (El-Radhi and Barry, 2006). Limitations of OTs include the effects of ambient room temperature and recent oral intake (Martin and Kline, 2004).

- **Axillary temperature:** This is inconsistent and insensitive in infants and children older than 1 month old (Falzon, Grech, Caruana, et al, 2003; Jean-Mary, Dicanzio, Shaw, et al, 2002; Stine, Flook, and Vincze, 2012). A systematic review of 20 studies concluded that axillary thermometers showed variation in findings and are not a good method for accurate temperature assessment (Craig, Lancaster, Williamson, et al, 2005). In neonates with fever, the axillary temperature should not be used interchangeably with rectal measurement (Hissink Muller, van Berkel, and de Beaufort, 2008). It can be used as a screening tool for fever in young infants (Batra, Saha, and Faridi, 2012).

- **Ear (aural) temperature:** This is not a precise measurement of body temperature. A meta-analysis of 101 studies comparing tympanic membrane temperatures with rectal temperatures in children concluded that the tympanic method demonstrated a wide range of variability, limiting its application in a pediatric setting (Craig, Lancaster, Taylor, et al, 2002). Other published reviews continue to find poor sensitivity using infrared ear thermometry (Devrim, Kara, Ceyhan, et al, 2007; Dodd,