Beckstrand, Cirgin-Ellett, and McDaniel, 2007; Ellett, Beckstrand, Welch, et al, 1992; Strobel, Byrne, Ament, et al, 1979).

Nonradiologic Verification Methods

- A pH of 5 or less supports that the tip of the tube is in the gastric location (Ellett, Croffie, Cohen, et al, 2005; Huffman, Pieper, Jarczyk, et al, 2004; Metheny and Stewart, 2002; Metheny, Reed, Wiersema, et al, 1993; Metheny, Stewart, Smith, et al, 1997, 1999; Neumann, Meyer, Dutton, et al, 1995; Nyqvist, Sorell, and Ewald, 2005; Phang, Marsh, Barlows, et al, 2004; Westhus, 2004; Society of Pediatric Nurses, 2011).

- A pH greater than 5 does not reliably predict correct distal tip location. This may indicate respiratory or esophageal placement or the presence of medications to suppress acid secretion. Gastric aspirate pH means are statistically significantly lower compared with means from intestinal and respiratory pH aspirates (Ellett, Croffie, Cohen, et al, 2005; Metheny and Stewart, 2002; Metheny, Stewart, Smith, et al, 1997; Metheny, Stewart, Smith, et al, 1999; Phang, Marsh, Barlows, et al, 2004; Westhus, 2004; Society of Pediatric Nurses, 2011).

Visual Inspection of Aspirate

- Visual inspection is less accurate than pH to confirm placement. Aspirate colors are specific to the intended placement location. Gastric contents are clear, off-white, or tan or may be brown-tinged if blood is present. Respiratory secretions may look the same. Intestinal contents are often bile stained, light to dark yellow, or greenish-brown (Metheny, Reed, Berglund, et al, 1994; Metheny and Stewart, 2002; Metheny, Stewart, Smith, et al, 1999; Phang, Marsh, Barlows, et al, 2004; Westhus, 2004; Society of Pediatric Nurses, 2011).

Enzyme Testing

- Aspirate testing of enzyme levels for bilirubin, pepsin, and trypsin is highly accurate but limited to laboratory assessment (Ellett, Croffie, Cohen, et al, 2005; Metheny and Stewart, 2002;