"The purpose of this study was to evaluate how well pediatric residents could confirm placement via radiography of feeding tubes and intravenous (IV) nutrition catheter support in a neonatal intensive care unit (NICU)." Lee et al (2014).

Reference:


Abstract:

Introduction: Although radiography is considered the standard for confirming the position of nutrition access devices, it is sometimes difficult to visualize their tips. The purpose of this study was to evaluate how well pediatric residents could confirm placement via radiography of feeding tubes and intravenous (IV) nutrition catheter support in a neonatal intensive care unit (NICU).

Methods: Seventy radiographs in a NICU during May 2013 were retrospectively evaluated. Eight pediatric residents (mean NICU experience, 5 months; range, 0-12 months) recorded the location of feeding tubes and IV nutrition catheters and marked their tips on computerized radiographs. Consensus review of radiographs by a radiologist and a NICU
expert using a picture archiving communication system monitor in a reading room served as the reference standard. Detection rates and correct tip localization percentages were evaluated.

Results: Of the 70 neonates, 38 had nutrition access devices: orogastric tube (n = 36), oroduodenal tube (n = 4), or central venous catheter (CVC) (n = 8). Detection rates were 89.6% for orogastric tubes (range, 75.0%-100%), 90.6% for oroduodenal tubes (range, 50.0%-100%), and 46.9% for CVCs (range, 12.5%-75.0%). Percentage of correct tip localizations was 85.7% for orogastric tubes (range, 74.1%-100%), 86.2% for oroduodenal tubes (range, 25.0%-100%), and 70% for CVCs (range, 50.0%-100%).

Conclusion: It is not easy for pediatrician residents to confirm the position of nutrition access devices in neonates by using radiographs. Reinforcement of radiology teaching, second opinions from radiologists or NICU experts, and other methods for verifying the positions of nutrition access devices are needed to minimize complications.

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