

Severe allergic reactions identified with peripherally inserted central catheters

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Peripherally inserted central catheters (PICCs) that use a magnetized tip to guide insertion were associated with serious allergic reactions in patients, according to a study published today in *Infection Control & Hospital Epidemiology*, the journal for the Society for Healthcare Epidemiology of America. Severe adverse reactions occurred in patients within minutes of PICC insertion.

PICCs are long IV lines inserted through a small vein in the upper arm and into the chest to administer antibiotics, other medications, or nutrition over a long period of time. PICC lines are an alternative to [central venous catheters](#), which require more training for [insertion](#) and are associated with more serious complications and infections.

"Our findings emphasize the need to recognize and carefully evaluate [adverse reactions](#) following PICC insertion and not to discount them as fainting episodes," said John Conly, MD, a professor of medicine at University of Calgary and Alberta Health Services, Canada, and lead author of the study. Conly said because the study is observational, it cannot be used to determine the cause of the reactions.

After reports of serious adverse events following PICC insertions, including hypersensitivity and anaphylaxis type reactions, researchers from Alberta Health Services and the University of Calgary began a four-year investigation comparing adverse events at two hospitals that used two kinds of PICCs that employed the magnetized Sherlock Tip Locating System (TLS) with two hospitals that used PICC systems that

do not employ the magnetized insertion system. Standardized definitions were applied in studying the reactions since the symptoms and signs of hypersensitivity and anaphylaxis type reactions can be mimicked by many other conditions.

Investigators identified 37 anaphylactic and anaphylactoid reactions among 8,257 insertions at two centers using PICC line systems that utilized the TLS while centers inserting similar products without the magnetized tip location system did not report any such reactions with 8,380 insertions.

More than half of the reactions were in patients with previously documented drug and environmental allergies, and a third had multiple allergies; and anaphylactic/anaphylactoid reactions occurred at higher rates among patients with [cystic fibrosis](#), with 10-16 percent of cystic fibrosis patients having reactions compared to 0.5 percent of the general population.

More information: Christina S. Thornton et al, Anaphylaxis and anaphylactoid reactions associated with the insertion of peripherally inserted central catheters: A multiyear comparative retrospective cohort study, *Infection Control & Hospital Epidemiology* (2019). [DOI: 10.1017/ice.2019.237](#)

Provided by Society for Healthcare Epidemiology of America

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