

World's largest study of catheters reveals major inconsistencies in clinical practice

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New global research led by Western Sydney University has found major problems with the management of short peripheral catheters – with two thirds of catheter insertions found to be placed in non-recommended sites or at risk of failure, and one in five catheters found to be unnecessarily painful or malfunctioning.

The international study, published in the *Journal of Hospital Medicine* and co-authored by Griffith University, among others, was the largest global study of its kind and involved hundreds of health professionals who assessed 40,620 peripheral intravenous catheters (PIVCs) in 51 countries. The study found that thousands of catheters were placed in non-recommended sites such as the hand, wrist, or antecubital veins with many devices reviewed were already failing or at risk of failure.

Lead author, Dr. Evan Alexandrou who is a senior lecturer at Western Sydney University's School of Nursing and Midwifery and Nurse Consultant for the Central Venous Access Service at Liverpool Hospital, says the findings highlight inconsistencies in published recommendations.

"For something so commonly used, failure rates are unacceptably high. We found 1 in 5 catheters to be painful or otherwise symptomatic, with dressings covering the catheters being substandard and many devices were idle and had not been used for some time," says Dr. Alexandrou.

"Nearly half the catheters reviewed had no documented date or time of

when the devices were inserted.

"To put this problem into perspective, almost 2 billion PIVCs are used annually around the globe, this means millions of patients around the world have painful or malfunctioning catheters that staff have not responded to."

Beyond avoiding painful [catheter](#) insertion, Dr. Alexandrou says better practice with PIVC management would have health and financial benefits.

"it would reduce delays in treatment with vital medication, improve efficiency of diagnostic tests such as laboratory values where blood sampling is required, and also improve catheter infection rates," says Dr. Alexandrou.

"The financial benefit to the Australian health care system alone would be in the millions of dollars."

Dr. Alexandrou hopes this study will highlight the inconsistencies between published best practice guidelines and current management practices of PIVCs. As well as the need to have a more proactive approach to the management of these devices.

"The findings suggest that additional training and technology are required so that staff can better identify and insert PIVCs effectively. Further, a stronger focus is needed on compliance with PIVC insertion and [management](#) guidelines; better surveillance of PIVC sites; and improved assessment, decision-making, and documentation," says Dr. Alexandrou.

More information: Evan Alexandrou et al. Use of Short Peripheral Intravenous Catheters: Characteristics, Management, and Outcomes

Worldwide, *Journal of Hospital Medicine* (2018). [DOI: 10.12788/jhm.3039](https://doi.org/10.12788/jhm.3039)

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