

New guidelines rate appropriateness of IV devices for sick children

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A Griffith University-led international collaboration has published the world's first pediatric appropriateness guidelines for intravenous catheters.

Associate Professor Amanda Ullman and colleagues from Menzies Health Institute Queensland, worked with Associate Professor Vineet Chopra and colleagues from the University of Michigan, to develop the Michigan Appropriateness Guide for Intravenous Catheters in Pediatrics (miniMAGIC) which rates the safety of all vascular access devices for children.

"Almost every child in healthcare needs an IV—also known as a vascular access [device](#)," Associate Professor Ullman said.

"They need an IV to receive treatment, from antibiotics and fluids to dialysis. Many children who are chronically ill are IV-dependent for much of their lives.

"There are a range of IV devices—all with different indications, ranging from short term intra-osseous devices to long-term totally implanted devices. But choosing the wrong IV device can result in harm to children, including infections, delayed treatments and pain.

In addition, she said many [children](#) with chronic conditions transition into adulthood with permanent vessel damage, limiting treatment options.

Associate Professor Ullman said the research team distilled the scientific and clinical knowledge from an expert pediatric panel (from leading US and Australian hospitals and universities, including Yale, UCLA, St. Jude Children's Research Hospital, Cincinnati Children's Hospital and the Queensland Children's Hospital) to produce miniMAGIC.

"Across the complexity of pediatric healthcare, it's the first time the breadth of pediatric VAD selection and insertion practices have been thoroughly evaluated and critiqued.

"We hope our findings will improve decisions for clinically challenging patients across a broad range of IVs. Because many recommendations are aimed at reducing harm, these appropriateness criteria will help reduce complications related to poor device-selection decisions.

"When faced with a baby with a complex cardiac condition, cancer, or critical illness, all clinicians can now access the miniMAGIC recommendations."

The study has been published [open access](#) in *Pediatrics*.

More information: Amanda J. Ullman et al. The Michigan Appropriateness Guide for Intravenous Catheters in Pediatrics: miniMAGIC, *Pediatrics* (2020). [DOI: 10.1542/peds.2019-3474I](https://doi.org/10.1542/peds.2019-3474I)

Provided by Griffith University

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