

# Replacing intravenous catheters only when clinically necessary is safe and could save

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New research published in the third Article in *The Lancet* surgery-themed issue suggests that the millions of intravenous catheters used each year can be safely changed only when clinically necessary, overturning 40 years of accepted practice involving routine replacement every 3 days. Introducing such a policy would not only prevent unnecessary painful procedures in one fifth of patients but also dramatically reduce equipment and staff costs.

"Of the 200 million catheters estimated to be inserted each year in the USA alone, if even 15% are needed for more than 3 days, then a change to clinically required replacement would prevent up to 6 million unnecessary intravenous catheter insertions, and would save about 2 million hours of staff time, and up to US\$60 million in [health costs](#) each year for that country alone", explains Claire Rickard from Griffith University in Australia who led the research.

In the study, 3283 adult patients expected to require a catheter for longer than 3 days were enrolled from three hospitals in Queensland, Australia. Patients were randomly assigned to either clinically indicated or routine removal every 3rd day to compare the effectiveness of each practice at reducing infection and phlebitis (inflammation of the vein).

The average catheter dwell time was 99 hours in the clinically indicated group and 70 hours in the routine replacement group. Phlebitis occurred in 7% of patients in both groups, blood-stream infections were rare and did not differ between groups, and no local infections were reported in

either group.

According to Joan Webster, the senior author from Royal Brisbane and Women's Hospital in Australia, "Up to 70% of hospitalised adult patients need a peripheral intravenous catheter. Catheter replacement is costly, time consuming, and causes distress to patients. Our data strongly suggest that routine replacement does not reduce complications, but rather causes many unnecessary [invasive procedures](#). Updated intravenous catheter policies (including CDC guidelines for [adult patients](#)) should advocate clinically indicated removal."

Writing in a linked Comment, Donna Gillies from Western Sydney Local Health District, Australia and Elisabeth O'Riordan from The Children's Hospital at Westmead, Australia say, "A major finding of this study was the high proportion of catheter failures, at nearly 30%. The failure of catheters due to infiltration, occlusion, or accidental removal was far more frequent than phlebitis or infection. Therefore, future studies that identify means of prevention of such [catheter](#) failures might have even greater implications for cost, reduction of unnecessary invasive procedures, and staff workloads than the present findings."

**More information:** [www.thelancet.com/journals/lan...](http://www.thelancet.com/journals/lan...)  
[/lan... \(12\)61082-4/abstract](http://www.thelancet.com/journals/lan...)

Provided by Lancet

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