

Prevention of peripheral intravenous catheter-related bloodstream infections: the need for routine replacement. MJA 16 Dec 2013. Letters p.750-751.

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In Reply: It is untrue that new recommendations for clinically indicated peripheral intravenous catheter (PIVC) replacement are based on phlebitis alone.

A *Cochrane* systematic review considered catheter related bloodstream infection (CRBSI) data from five randomised controlled trials (RCTs) (4,806 patients) and found no evidence for effectiveness of routine replacement ($p=0.64$).^[1] The largest trial published in *The Lancet* (3,283 patients) studied both CRBSI and all-cause BSIs finding no disadvantage to clinically indicated removal compared with routine replacement. ^[2] If anything, the doubling of BSI rates with routine replacement (9/1690 v 4/1593), suggested it was the additional insertion procedures that led to increased risk of microbial entry into blood.

Replacement of PIVCs is an intervention. Interventions are tested with the least risk of bias via systematic reviews and meta-analyses. *Cochrane's* included RCTs were prospectively registered, with data collected by research nurses, from randomised patients with concurrent control groups, in multiple hospitals and the home setting. ^[2-6] In *The Lancet* trial, BSIs were assessed by an infectious diseases physician blind to dwell time.^[2] Survival analysis assessed the true risk over time per patient, not simply crude incidence per catheter.

In their letter, Collignon and colleagues present low level evidence - retrospective data from one hospital, with no randomisation, control group, blinding, power calculations, information about total PIVCs inserted in the hospital, nor their insertion and maintenance practices.

Based on the high-level evidence, practitioners should ensure that patients avoid a repeated, painful and ineffective procedure. Medical and surgical residents and trainees are busy enough without perpetuating unnecessary routine PIVC replacements.

References

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