

“To allow therapy or haemodynamic monitoring, VADs frequently require administration sets (AS) composed of infusion tubing, fluid containers, pressure-monitoring transducers and/or burettes. While VADs are replaced only when necessary, AS are routinely replaced every 3-4 days in the belief that this reduces infectious complications” Rickard et al (2015).

#### Reference:

Rickard, C.M., Marsh, N.M., Webster, J., Gavin, N.C., McGrail, M.R., Larsen, E., Corley, A., Long, D., Gowardman, J.R., Murgo, M., Fraser, J.F., Chan, R.J., Wallis, M.C., Young, J., McMillan, D., Zhang, L., Choudhury, M.A., Graves, N. and Playford, E.G. (2015) Intravascular device administration sets: replacement after standard versus prolonged use in hospitalised patients-a study protocol for a randomised controlled trial (The RSVP Trial). *BMJ Open*. 5(2), p.e007257.

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#### Abstract:

**INTRODUCTION:** Vascular access devices (VADs), such as peripheral or central venous catheters, are vital across all medical and surgical specialties. To allow therapy or haemodynamic monitoring, VADs frequently require administration sets (AS) composed of infusion tubing, fluid containers, pressure-monitoring transducers and/or burettes. While VADs are replaced only when necessary, AS are routinely replaced every 3-4 days in the belief that this reduces infectious complications. Strong evidence supports AS use up to 4 days, but there is less evidence for AS use beyond 4 days. AS replacement twice weekly increases hospital costs and workload.

**METHODS AND ANALYSIS:** This is a pragmatic, multicentre, randomised controlled trial (RCT) of equivalence design comparing AS replacement at 4 (control) versus 7 (experimental) days. Randomisation is stratified by site and device, centrally allocated and concealed until enrolment. 6554 adult/paediatric patients with a central venous catheter, peripherally inserted central catheter or peripheral arterial catheter will be enrolled over 4 years. The primary outcome is VAD-related bloodstream infection (BSI) and secondary outcomes are VAD colonisation, AS colonisation, all-cause BSI, all-cause mortality, number of AS per patient, VAD time in situ and costs. Relative incidence rates of VAD-BSI per 100

devices and hazard rates per 1000 device days (95% CIs) will summarise the impact of 7-day relative to 4-day AS use and test equivalence. Kaplan-Meier survival curves (with log rank Mantel-Cox test) will compare VAD-BSI over time. Appropriate parametric or non-parametric techniques will be used to compare secondary end points. p Values of

ETHICS AND DISSEMINATION: Relevant ethical approvals have been received. CONSORT Statement recommendations will be used to guide preparation of any publication. Results will be presented at relevant conferences and sent to the major organisations with clinical practice guidelines for VAD care.

TRIAL REGISTRATION NUMBER: Australian New Zealand Clinical Trial Registry (ACTRN 12610000505000).

Full Text

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