CATheter Infections in CHildren (CATCH): a randomised controlled trial and economic evaluation comparing impregnated and standard central venous catheters in children

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Declared competing interests of authors: Michael Millar was a member of the National Institute for Health Research Health Technology Assessment Diagnostic Technologies and Screening Panel for the duration of the CATCH study.

Published March 2016
DOI: 10.3310/hta20180
Plain English summary

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Health Technology Assessment 2016; Vol. 20: No. 18
DOI: 10.3310/hta20180

NIHR Journals Library www.journalslibrary.nihr.ac.uk
Plain English summary

Children who are admitted to hospital for intensive care often need to have medicines given directly into their veins, through a small plastic tube called a central venous catheter (CVC). CVCs avoid the need for repeated injections, but their disadvantage is an increased risk of bloodstream infection (BSI), which can result in prolonged treatment and time in hospital.

In adults, CVCs coated with medicine to kill bacteria (antibiotics) or prevent clots (heparin) help reduce the risk of BSI. However, we do not know if coating the much narrower CVCs used for children would work in the same way. The only way to find out which type of CVC (standard non-coated, antibiotic coated or heparin coated) works best was to carry out a randomised controlled trial.

Children aged < 16 years who needed a CVC for intensive care treatment participated within 14 hospitals in England. Consent was provided for all participants in the trial. Each child had an equal chance of receiving one of the three CVC types.

Bloodstream infection occurred in 4% of children with standard CVCs and 2% of those with impregnated CVCs. Rates of BSI were lowest in the antibiotic CVC group (1%) but these children had slightly higher health-care costs for the 6 months after trial participation. Although doubt remains whether or not antibiotic CVCs would result in cost savings for the NHS in England, our results suggest that using antibiotic CVCs could help reduce BSI rates for children in intensive care.
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This report

The research reported in this issue of the journal was funded by the HTA programme as project number 08/13/47. The contractual start date was in March 2010. The draft report began editorial review in May 2015 and was accepted for publication in October 2015. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HTA editors and publisher have tried to ensure the accuracy of the authors’ report and would like to thank the reviewers for their constructive comments on the draft document. However, they do not accept liability for damages or losses arising from material published in this report.

This report presents independent research funded by the National Institute for Health Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, NETSCC, the HTA programme or the Department of Health. If there are verbatim quotations included in this publication the views and opinions expressed by the interviewees are those of the interviewees and do not necessarily reflect those of the authors, those of the NHS, the NIHR, NETSCC, the HTA programme or the Department of Health.

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