Implementation of a children’s hospital-wide central venous catheter insertion and maintenance bundle.

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We will test the following hypothesis: implementation of hospital-wide CVC insertion and maintenance bundles on the guidance of the Pronovost-model promotes adherence to its use and reduces the number of CA-BSIs.

Ethische beoordeling	Positief advies
Status	Werving gestopt
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON28671

Bron
Nationaal Trial Register

Verkorte titel
ICVC

Aandoening

bloodstream infection, central venous catheter, prevention, children’s hospital, implementation, education

Ondersteuning

Primaire sponsor: University Medical Center Rotterdam, Erasmus MC-Sophia Children's Hospital
Overige ondersteuning: Erasmus MC-Sophia Children's Hospital

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Primary outcome measure is the number of catheter-associated infections per 1000 line-days.

Toelichting onderzoek

Achtergrond van het onderzoek

Background:

Catheter-associated bloodstream infections in children with central venous catheters (CVC) are an increasingly recognized serious safety problem worldwide, but are often preventable. CVC bundles proved effective to prevent infections in studies performed in single or multiple units. Successful implementation requires changes in the hospital system as well as behavioural changes of healthcare professionals. The aim of the study is to evaluate the process and the outcome of the implementation of a state-of-the-art CVC insertion and maintenance bundle throughout a large university children's hospital over an 18 month period.

Methods/ design:

An interrupted time series design will be used; the study will encompass all children who need a CVC. New state-of-the-art CVC bundles will be developed. The Pronovost-model will guide the implementation process. We developed a tailored multifaceted implementation strategy consisting of reminders, feedback, management support, local opinion leaders, and education. Primary outcome measure is the number of catheter-associated infections per 1000 line-days. The process outcome is degree of adherence to use of these CVC bundles. A cost-effectiveness analysis is part of the study. Outcomes will be monitored during three periods: baseline, pre-intervention, and post-intervention for over 18 months.

Discussion:

By applying an implementation model we will explore the challenges of implementing a hospital-wide safety program. This work will add to the body of knowledge in the field of implementation. We postulate that healthcare workers' willingness to shift from providing habitual care to state-of-the-art care may reflect the need for consistent care improvement.

Doel van het onderzoek

We will test the following hypothesis: implementation of hospital-wide CVC insertion and maintenance bundles on the guidance of the Pronovost-model promotes adherence to its use and reduces the number of CA-BSIs.

Onderzoeksopzet

Outcomes will be monitored during three periods: baseline, pre-intervention, and post-intervention for over 18 months.

Onderzoeksproduct en/of interventie

The implementation of an Quality Improvement (QI) program. This QI will affect healthcare workers in care for CVC's.

QI program (a tailored multifaceted implementation strategy) consisted of: Reminders, feedback on performance, management support, local opinion leaders, and education.

Contactpersonen

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

All healthcare workers employed at the Erasmus MC-Sophia Children's Hospitial, Rotterdam, involved in patient care will participate.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

Healthcare workers who are not involved in patient care.

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Parallel
Toewijzing:	N.v.t. / één studie arm
Blindering:	Open / niet geblindeerd
Controle:	N.v.t. / onbekend

Deelname

Nederland

Status:	Werving gestopt
(Verwachte) startdatum:	01-01-2012
Aantal proefpersonen:	12840
Type:	Werkelijke startdatum

Ethische beoordeling

Positief advies

Datum:	20-09-2012
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

Geen registraties gevonden.

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL3489
NTR-old	NTR3635
Ander register	METC ErasmusMC : 2012-375
ISRCTN	ISRCTN wordt niet meer aangevraagd.

Resultaten

Samenvatting resultaten

1: Buijs EA, Zwiers AJ, Ista E, Tibboel D, de Wildt SN. Biomarkers and clinical tools in critically ill children: are we heading toward tailored drug therapy? Biomark Med. 2012 Jun;6(3):239-57. PubMed PMID: 22731898.
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3: Ista E, Wildschut E, Tibboel D. Creating or preventing opioid addiction, finding the right dose. Pediatr Crit Care Med. 2011 Sep;12(5):590-2. PubMed PMID: 21897158.
4: Valkenburg AJ, Boerlage AA, Ista E, Duivenvoorden HJ, Tibboel D, van Dijk M. The COMFORT-behavior scale is useful to assess pain and distress in 0- to 3-year-old children with Down syndrome. Pain. 2011 Sep;152(9):2059-64. Epub 2011 Jun 2. PubMed PMID: 21640484.
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6: Duyndam A, Ista E, Houmes RJ, van Driel B, Reiss I, Tibboel D. Invasive

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10: Ista E, van der Voort E. Assessment of withdrawal symptoms in pediatric intensive care patients, a new future? Pediatr Crit Care Med. 2008 Nov;9(6):654-5. PubMed PMID: 18997597.
11: Ista E, van Dijk M, Gamel C, Tibboel D, de Hoog M. Withdrawal symptoms in critically ill children after long-term administration of sedatives and/or analgesics: a first evaluation. Crit Care Med. 2008 Aug;36(8):2427-32. PubMed PMID: 18596622.
12: Ista E, van Dijk M, Gamel C, Tibboel D, de Hoog M. Withdrawal symptoms in children after long-term administration of sedatives and/or analgesics: a literature review. "Assessment remains troublesome". Intensive Care Med. 2007 Aug;33(8):1396-406. Epub 2007 Jun 1. Review. PubMed PMID: 17541548.
13: Ista E, Joosten K. Nutritional assessment and enteral support of critically ill children. Crit Care Nurs Clin North Am. 2005 Dec;17(4):385-93, x. Review. PubMed PMID: 16344208.
14: Ista E, van Dijk M, Tibboel D, de Hoog M. Assessment of sedation levels in pediatric intensive care patients can be improved by using the COMFORT "behavior" scale. Pediatr Crit Care Med. 2005 Jan;6(1):58-63. PubMed PMID: 15636661.