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SECUREMENT OF CENTRAL VENOUS CATHETERS BY SUBCUTANEOUSLY ANCHORED SUTURELESS DEVICES IN NEONATES.

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NICE National Institute for Health and Care Excellence

SecurAcath for securing percutaneous catheters

Medical technologies guidance [MTG34] Published date: June 2017

Current Management

Current options for catheter securement include **adhesive devices**, **steri-strips, tape and sutures**.

The NICE guideline on infection control recommends that:

- **skin** around the catheter insertion site is **cleaned with chlorhexidine gluconate** in 70% alcohol;
- the **insertion site** should be covered by a **sterile transparent semipermeable membrane dressing.**

The **US Infusion Nursing Society's Infusion Standards of Practice (2016)** suggests that engineered stabilisation devices such as SecurAcath and StatLock:

- **reduce catheter movement** that can lead to complications,
- **reduce the number of interruptions** needed for infusion therapy,
- may **lower costs** of care.

The document also states that users should be aware of the risk of medical adhesive-related skin injury with the use of adhesive-based engineered stabilisation devices

NICE National Institute for Health and Care Excellence

SecurAcath for securing percutaneous catheters

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1.1 The case for adopting SecurAcath for securing peripherally inserted central catheters (PICCs) is supported by the evidence. SecurAcath is easy to insert, well tolerated, associated with a low incidence of catheter-related complications and does not usually need removing while the catheter is in place.

1.2 SecurAcath should be considered for any PICC with an anticipated medium- to long-term dwell time (15 days or more).

1.3 Cost modelling shows that SecurAcath is cost saving compared with adhesive securement devices if the PICC remains in place for 15 days or longer. Estimated cost savings range from £9 to £95 per patient for dwell times of 25 days and 120 days, respectively. Cost savings result from shorter maintenance times and less need for device replacement with SecurAcath. Annual savings across the NHS in England from using SecurAcath are estimated to be a minimum of £4.2 million.

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SecurAcath

SecurAcath is a single-use **subcutaneously anchored sutureless (SAS) device**

Unlike adhesive securement devices,
the device is removed at the same time that the catheter requires removal.

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ORIGINAL RESEARCH ARTICLE

Potential role of a subcutaneously anchored securement device in preventing dislodgment of tunneled-cuffed central venous devices in pediatric patients

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ABSTRACT

Introduction: The potential drawbacks of tunneled-cuffed catheters are complications such as local or systemic infection, dislodgment, rupture, malfunction, and deep venous thrombosis. Aim of this study is to describe the incidence of complications, focusing on dislodgment and on the role of new securement devices in reducing this annoying issue.

Methods: We enrolled all pediatric patients with tunneled-cuffed central venous catheters (CVCs) inserted at the Giannina Gaslini Institute during a 16-month period. Demographic data, technical details, intraoperative and postoperative complications were recorded and stored in a digital database according to Data Protection Act.

Results: During the study period, we collected 173 tunneled-cuffed CVCs. All but three insertions were successful. There were 50 complications involving 47 CVCs. Complications included 13 infections, 27 dislodgments, 4 thromboses, 3 obstructions, and 3 malfunctions/breaking. In 51 of 173 CVCs, we used subcutaneously anchored securement device (SAS).

Conclusions: The use of SAS proved to significantly reduce the incidence of complications in pediatric patients, particularly during the first 30 postoperative days. Basing on our results we suggest to routinely adopt this new securement device for high-risk CVC.

Keywords: CVC, Pediatric, SAS, Securement devices, Tunneled-cuffed central venous catheter

SAS devices have been recently introduced in clinical practice for securement of different types of CVC in paediatric patients…

…but they have never been used in neonates.

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OBJECTIVES

To evaluate safety and efficacy of SAS in neonates.

METHODS

We adopted SAS for securement of all central venous catheters inserted in neonates via ultrasound- guided cannulation either of the brachio-cephalic vein (CICC) or the femoral vein (FICC).

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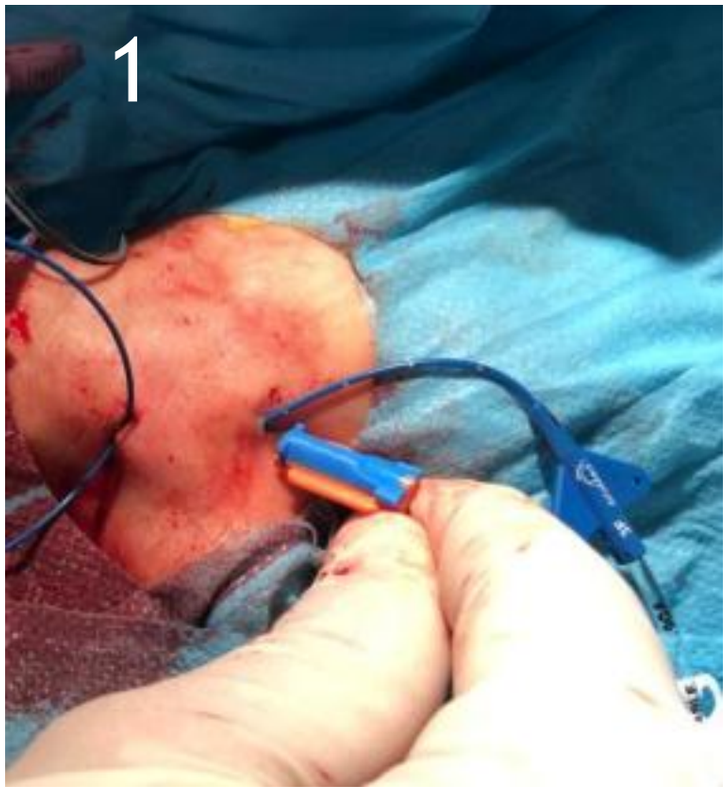
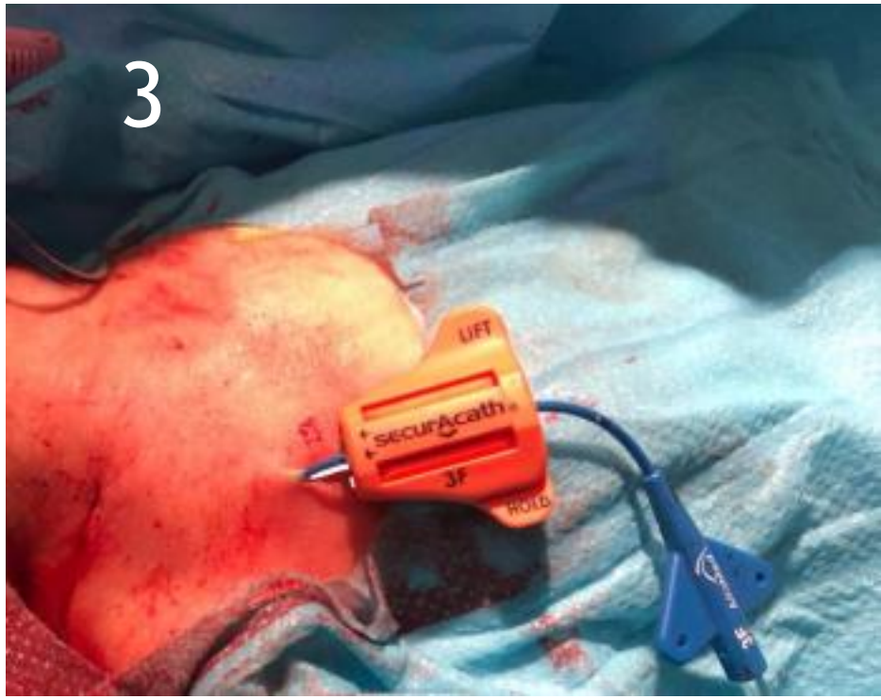
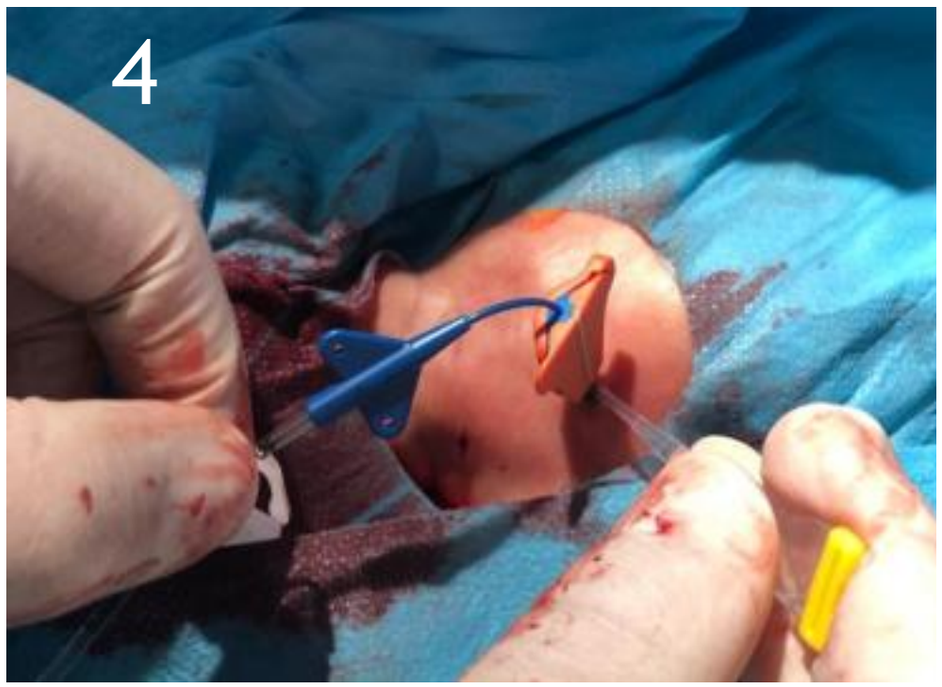
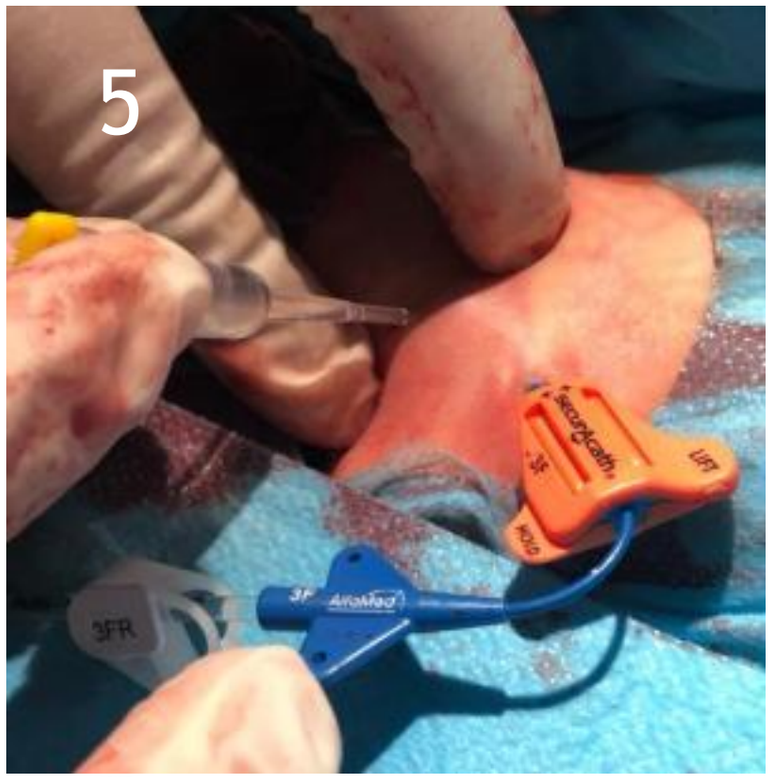
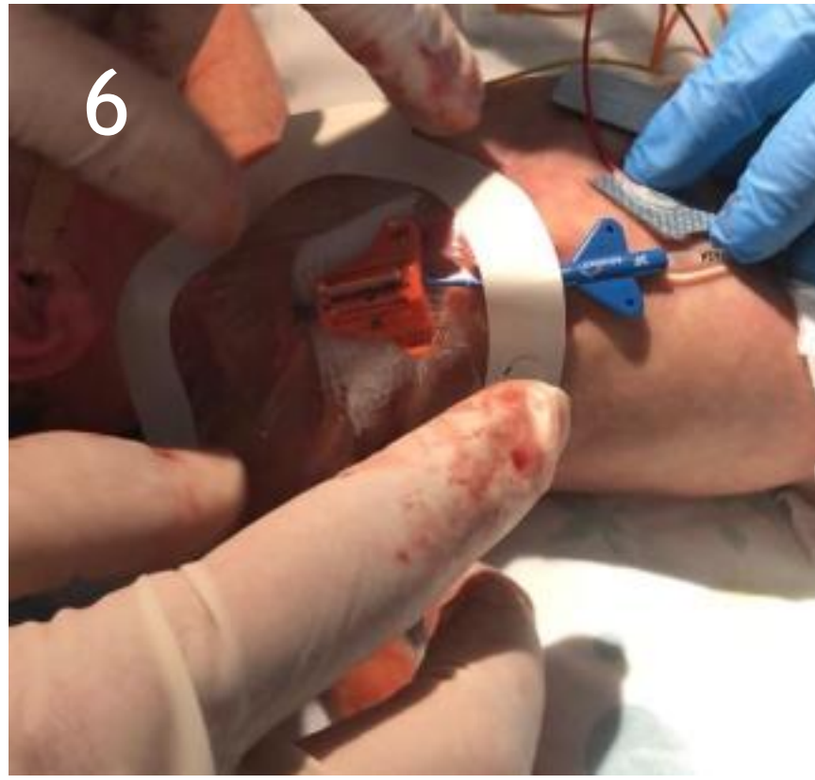
How to: step by step











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RESULTS

catheters	72 cvc 62 CICC + 10 FICC	3-4Fr power injectable polyurethane catheters;
population	70 pre-term and term neonates	at the time of insertion **mean PMA:** 31 weeks (25-41) **mean weight:** 1400g (580-4100)
median duration	5 weeks (10 days- 3 months)	All SAS but one were left in place until elective removal of the catheter; only in one patient, early removal of SAS was necessary because of a skin ulcer caused by the device.
dislodgement	0 recorded	

MOREOVER:

- SAS was easy to place in all cases.
- In all patients, SAS removal was easy and uneventful, and it did not require any sedation or local anesthesia

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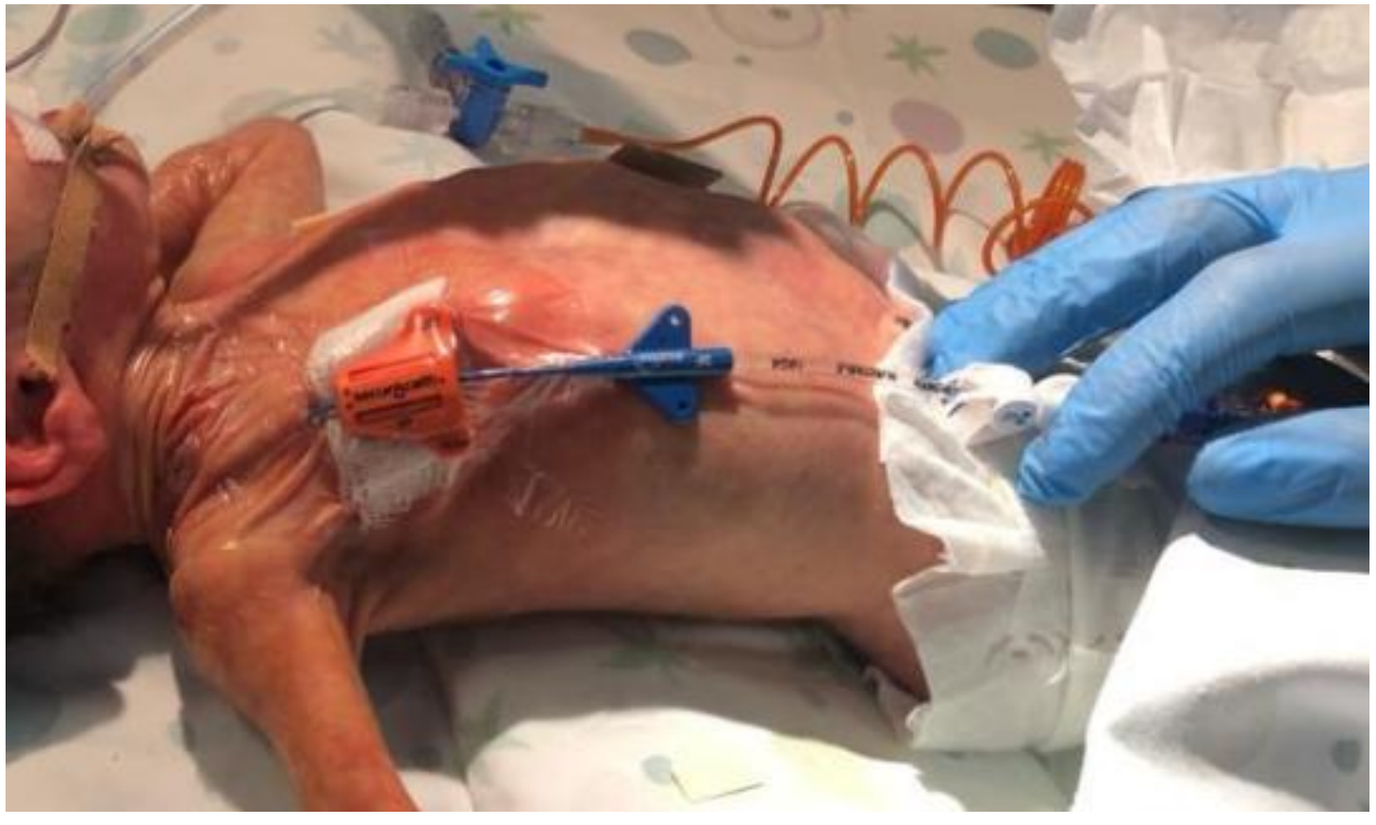
CONCLUSION

SAS was effective in preventing accidental catheter dislodgement in 100% of cases.

Complications during insertion, maintenance and removal were negligible.



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normal

Clinical experience of a subcutaneously anchored sutureless system for securing central venous catheters

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Abstract

This article reports the results of three prospective clinical studies conducted in a university hospital regarding the efficacy, safety and cost effectiveness of a subcutaneously anchored sutureless system for securing central venous catheters. The results were favourable to the adoption of such a device, and the analysis of the data allowed the authors to define those categories of patients where the device should have the most benefit: neonates, children, non-compliant older patients with cognitive difficulties, patients with skin abnormalities that may reduce the effectiveness of a skin-adhesive sutureless securement system, patients who are candidates for having a peripherally inserted central catheter (PICC) in place for more than 8 weeks, and any other category of patients with a recognised high risk of catheter dislodgement.

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