

Does the use of Antiseptic Barrier Caps (ABCs) reduce Central Line Associated Blood Stream Infection (CLABSI)

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Introduction and background

44.5% of all blood stream infections within NHS are CLABSIs and one CLABSI costs NHS £6209 (Cameron-Watson, 2016). Data shows 54% nurses cleaned and accessed CVC ports for 10 seconds or less, instead of the minimum 15-30 seconds and allow to dry for another 15-30 seconds. They did not apply scrub the hub technique correctly: a main cause of patient harm resulting from line infections (Rawlinson, 2014). The cleaning of key parts often carries a failure rate of up to 80%

(Rowley and Clare, 2009). Variation in practices and non-compliance with disinfection can increase the risk of CLABSI, with a resulting cost of over £3000 for every hospital-acquired infection (National Audit Office, 2009). The author's reflective account for a patient who developed CLABSI identified areas requiring innovation and evidence based practices which could tackle the issue of poor disinfection compliance: Antiseptic Barrier Caps for CVC port protection.

Aim

Explore and identify an effective measure for CLABSI prevention focusing on:

- Improving scrub the hub practice and compliance
- User and environment friendly; time saving and cost effective disinfection method



Methods

A critical analysis of evidence based literature was conducted using CASP tool to explore effectiveness of ABCs. Literature analysed included:

- A systematic review and meta-analysis (Gillis et al., 2023)
- A pilot randomized control trial (Rickard et al. 2021)
- An NHS trust based clinical trial-audit (Cameron-Watson, 2016)
- NICE guidelines (2021)

Antiseptic Barrier Caps



A critical analysis

Results

	Gillis et al., 2023	Cameron-Watson, 2016	Rickard et al., 2021
Satisfaction	90%	100%	90%
Compliance	Nine studies evaluated and reported high compliance with ABCs	Increased by 53%	No data
CLABSI reduction	Intervention group: 391 CLABSIs in 273,993 catheter days (1.43/1000) Usual care group: 620 CLABSIs in 284,912 catheter days (2.18/1000)	69% reduction (26 before, 8 after)	2% CLABSI incidence, 0 with CHG+IPA wipes
Cost effectiveness	The average cost saving \$41,000/1000 catheter days	69.2% cost reduction	No data

Discussion and conclusion

- Evidence suggests antiseptic barrier caps are effective for CLABSI reduction, cost effective and reduce average spending on CLABSIs.
- Staff satisfaction and compliance was significantly higher with ABCs compared to wipes.
- ABCs provide an effective alternative to combat issue of lack of compliance for CVC ports disinfection.

- NICE (2021) suggested more research to explore effectiveness of ABCs.
- Passive disinfection provides time saving for staff working at bedside.
- Only one incident relating to patient safety was reported among all the studies where ABC on CVC port became opaque however no patient harm was reported in any research which suggests ABCs are safe.
- Some studies on ABCs have been conducted by pharmaceutical companies which increases the risk of biases hence more good quality, UK based trials are needed
- NICE (2021) recommended ABCs are a cost-saving option for preventing CLABSIs in people with CVC having haemodialysis.

More information for preparation and references

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