



Intravenous literature: Griswold, S., Bonaroti, A., Rieder, C.J., Erbayri, J., Parsons, J., Nocera, R. and Hamilton, R. (2013) Investigation of a safety-engineered device to prevent needlestick injury: why has not StatLock stuck? *BMJ Open*. 3(4), p.1-6.

Abstract:

OBJECTIVE: This article sought to define whether an alternative safety-engineered device (SED) could help prevent needlestick injury (NSI) in healthcare workers (HCWs) who place central venous catheters (CVCs).

DESIGN: The study involved three phases: (1) A retrospective analysis of deidentified occupational health records from our tertiary care urban US hospital to clearly identify NSI risk and rates to an HCW during invasive catheter placement; (2) 95 residents were surveyed regarding their knowledge and experience with NSIs and SEDs; (3) A random sample of six residents participated in a focus group session discussing barriers to the use of SED.

SETTING: A single urban US tertiary care teaching hospital.

PARTICIPANTS: A retrospective analysis of NSI to HCWs in a tertiary care urban US hospital was conducted over a 4-year period (July 2007-June 2011). Ninety-five residents from specialties that often place CVC during training (surgery, surgical subspecialties, internal medicine, anaesthesia and emergency medicine) were surveyed regarding their experience with NSIs and SEDs. A random sample of six residents participated in a focus group session

discussing barriers to the use of SED.

RESULTS: 314 NSIs were identified via occupational health records. 16% (21 of 131) of NSIs occurring in residents and fellows occurred during the securement of an invasive catheter such as a CVC. If an SED device had been used, the 5.25 NSIs/year could have been avoided. Each NSI occurring in an HCW incurred at least \$2723 in charges. Thus, utilisation of the SED could have saved a minimum of \$57 183 over the 4-year period.

CONCLUSIONS: SEDs are currently available and can be used as an alternative to sharps. If safety and efficacy can be demonstrated, then implementation of such devices can significantly reduce the number of NSIs.

