“The work described here investigated the issue in an attempt to better understand it both from an operator and a systems perspective, and to ultimately recommend appropriate safe design solutions that reduce guidewire retention errors.” Horberry et al (2014).

CVC guidewire retention avoidance using human factors http://ctt.ec/Yi9JL+ @ivteam #ivteam

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Abstract:

BACKGROUND: Central Venous Catheterisation (CVC) has occasionally been associated with cases of retained guidewires in patients after surgery. In theory, this is a completely avoidable complication; however, as with any human procedure, operator error leading to guidewires being occasionally retained cannot be fully eliminated.

OBJECTIVE: The work described here investigated the issue in an attempt to better understand it both from an operator and a systems perspective, and to ultimately
recommend appropriate safe design solutions that reduce guidewire retention errors.

METHODS: Nine distinct methods were used: observations of the procedure, a literature review, interviewing CVC end-users, task analysis construction, CVC procedural audits, two human reliability assessments, usability heuristics and a comprehensive solution survey with CVC end-users.

RESULTS: The three solutions that operators rated most highly, in terms of both practicality and effectiveness, were: making trainees better aware of the potential guidewire complications and strongly emphasising guidewire removal in CVC training, actively checking that the guidewire is present in the waste tray for disposal, and standardising purchase of central line sets so that differences that may affect chances of guidewire loss is minimised.

CONCLUSIONS: Further work to eliminate/engineer out the possibility of guidewires being retained is proposed.

Other intravenous and vascular access resources that may be of interest (External links – IVTEAM has no responsibility for content).