



We undertook a quality improvement project involving a standardised bundle of care and a peri-operative central venous catheter insertion checklist with the aim of reducing the risk of such an incident re-occurring.” Hade et al (2019).

Abstract:

Central venous catheter insertion is a routine procedure performed by anaesthetists in the peri-operative setting. Upper body central venous catheters are usually placed such that their tip lies within the superior vena cava or at the cavo-atrial junction. Positioning the tip ‘too low’ in the right atrium has long been argued against on the basis that it increases the risk of perforation, leading to cardiac tamponade. Positioning the tip ‘too high’ in the brachiocephalic vein or above can also be problematic in that proximal migration can result in extravascular placement of the proximal lumen. Such an incident occurred at our hospital in 2016, resulting in extravasation of a vesicant medication causing tissue necrosis. We undertook a quality improvement project involving a standardised bundle of care and a peri-operative central venous catheter insertion checklist with the aim of reducing the risk of such an incident re-occurring. We conducted a three-month pre-intervention audit (n = 84) in 2016 and a post-intervention audit (n = 84) in 2017. Compared with the pre-intervention audit, the post-intervention audit coincided with a lower rate of central venous catheter tip malpositioning (5.6% vs. 9.2%); and a higher rate of ‘optimal’ central venous catheter tip position in the distal superior vena cava or cavo-atrial junction (45.1% vs. 29.2%). The central

venous catheter insertion checklist also substantially improved documentation of sterility measures, insertion depth and post-insertional documentation of tip position on chest radiograph.

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Reference:

Hade, A.D., Beckmann, L.A. and Basappa, B.K. (2019) A checklist to improve the quality of central venous catheter tip positioning. *Anaesthesia*. May 6th. . doi: 10.1111/anae.14679.

