

## Central Line Stock and Use Audit in Adult Patients: A Quality Improvement Project on Central Venous Catheter Standardisation Across Hospital Departments

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**Abstract :** A number of incident reports were filed from the intensive care unit with regards to adult patients admitted following operations who had a central venous catheter inserted of the incorrect length for the relevant anatomical site and catheters not compatible with pressurised injection inserted whilst in theatre. Incorrect catheter length can lead to a variety of complications and pressurised injection is a requirement for contrast enhanced computerised tomography scans. This led to several patients having a repeat procedure to insert a catheter of the correct length and also compatible with pressurised injection. This project aimed to identify the types of central venous catheters used in theatres and ensure the correct equipment would be stocked and used in future cases in accordance the existing Association of Anaesthetists of Great Britain and Northern Ireland guidelines. A questionnaire was sent out to all of the anaesthetic department in our hospital aiming to determine what types of central venous catheters were preferably used by anaesthetists and why these had been chosen. We also explored any concerns regarding introduction of standardised, pressure injectable central venous catheters to the theatre department which were already in use in other parts of the hospital and in keeping with national guidance. A total of 56 responses were collected. 64% of respondents routinely used a central venous catheter which was significantly shorter than the national recommended guidance with a further 4 different types of central venous catheters used which were different to other areas of the hospital and not pressure injectable. 75% of respondents were in agreement to standardised introduction of the pressure injectable catheters of the recommended length in accordance with national guidance. Reasons why 25% respondents were opposed to introduction of these catheters were explored and discussed. We were successfully able to introduce the standardised central catheters to the theatre department following presentation at the local anaesthetic quality and safety meeting. Reasons against introduction of the catheters were discussed and a compromise was reached that the existing catheters would continue to be stocked but would only be available on request, with a focus on encouraging use of the standardised catheters. Additional changes achieved included removing redundant catheters from the theatre stock. Ongoing data is being collected to analyse positive and negative feedback from use of the introduced catheters.

**Keywords :** central venous catheter, medical equipment, medical safety, quality improvement

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