The Sherlock 3CG ® Tip Confirmation System (TCS) allows magnetic tracking of the PICC tip during insertion and confirmation of the final location using ECG, meaning that most patients will not require a chest X-ray or fluoroscopy" Dale et al (2015).

Abstract:

In current clinical practice, peripherally inserted central catheters (PICCs) are typically inserted using external anatomical measurements and a confirmatory chest X-ray, or using fluoroscopy. The Sherlock 3CG ® Tip Confirmation System (TCS) allows magnetic tracking of the PICC tip during insertion and confirmation of the final location using ECG, meaning that most patients will not require a chest X-ray or fluoroscopy. The Sherlock 3CG ® TCS was evaluated in 2014 by the UK National Institute for Health and Care Excellence (NICE) as part of the Medical Technologies Evaluation Programme.

The company (C.R. Bard Ltd) identified four abstracts, one paper pending publication and questionnaire data from NHS users of the Sherlock 3CG ® TCS. None of the evidence included a comparator arm. Placement accuracy of PICCs using the Sherlock 3CG ® TCS where a chest X-ray was also used ranged from 79.5 to 100 %. The company reported that 9 out of 16 NHS centres that used the Sherlock 3CG® TCS were no longer using chest X-rays to routinely confirm PICC tip location. The evidence did not report the need for catheter repositioning, re-insertion, staff time savings, treatment delays, length of stay, quality of life outcomes or complications. The company's model found that the Sherlock 3CG ® TCS was cost saving by GBP25.67 per patient compared to blind bedside PICC insertion. The External Assessment Centre (EAC) adapted the company's model to test alternative assumptions for nurse time, theatre cost, malposition rate and reinsertion method, and found that the Sherlock 3CG ® TCS was cost incurring by GBP9.37 per patient compared to blind bedside PICC insertion. The use of the Sherlock 3CG ® TCS in the UK NHS compared to blind PICC insertion using a confirmatory chest X-ray appears to hover around being cost neutral. Staff time and accuracy were key drivers in the model: evidence for these is sparse and the reality will vary in different situations. If evidence became available for outcomes after the initial insertion, such as replacement, complications and adverse events, the cost implications may change. The direction of this potential change is not known. NICE published guidance MTG24 in March 2015 recommending that the case for adoption of Sherlock 3CG ® TCS was supported by the evidence.

Reference:

Dale, M., Higgins, A. and Carolan-Rees, G. (2015) Sherlock 3CG® Tip Confirmation System

for Placement of Peripherally Inserted Central Catheters: A NICE Medical Technology Guidance. Applied Health Economics and Health Policy. August 21st. .

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