

**An audit was conducted of all patients who had a PICC in situ for a 6-week period, using a combination of reviewing clinical documentation and local departmental databases, physical review of inpatients and discussion with the relevant clinical nurse specialists in haematology, oncology, outpatient antibiotic therapy and the vascular access team, to determine the degree of PWO or occlusion but also to review possible financial implications in the introduction of a more expensive product” Hitchcock (2016).**

Abstract:

Peripherally inserted central catheters (PICCs) are used in a variety of specialties. Infective and thrombotic complications are widely reported but little has been written about the complications of persistent withdrawal occlusion (PWO) or complete luminal occlusion in PICCs. An audit was conducted of all patients who had a PICC in situ for a 6-week period, using a combination of reviewing clinical documentation and local departmental databases, physical review of inpatients and discussion with the relevant clinical nurse specialists in haematology, oncology, outpatient antibiotic therapy and the vascular access team, to determine the degree of PWO or occlusion but also to review possible financial implications in the introduction of a more expensive product. It was difficult to determine a rate for either PWO or complete occlusion owing to the diversity of the patient cohort and the tertiary nature of the organisation; the occlusion rate was estimated at 5%, but there was general agreement this was underestimating the problem. A needle-free connector was subsequently introduced for all PICCs in haematology, oncology and hepatobiliary services. Following the change in needle-free connector, 180 PICCs were inserted by the vascular access team on one of the organisation’s sites over a 12-month period, with a total dwell time of 9702 catheter days (mean: 53.9 days, median: 35 days), a PWO rate of 1/1000 catheter days and total occlusion rate of 0.4/1000 catheter days. The time for insertion to complication of PWO or occlusion ranged from 9 to 144 days. Despite poor baseline data the results suggested the introduction of the bi-directional needle-less connector had a positive



impact on the PWO and occlusion rates in PICCs.

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Reference:

Hitchcock, J. (2016) Preventing intraluminal occlusion in peripherally inserted central catheters. British Journal of Nursing. 25(19), p.S12-S18.

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