



Intravenous literature: Mollee, P., Jones, M., Stackelroth, J., van Kuilenburg, R., Joubert, W., Faoagali, J., Looke, D., Harper, J. and Clements, A. (2011) Catheter-associated bloodstream infection incidence and risk factors in adults with cancer: a prospective cohort study. *Journal of Hospital Infection*. 78(1), p.26-30.

### Abstract:

Central venous catheter-associated bloodstream infections (CABSIs) cause considerable morbidity in patients with cancer. We determined the incidence and risk factors for CABSI by performing a prospective observational cohort study of all adult patients requiring a central venous access device (CVAD) in a haematology-oncology unit. All CVADs were inserted under ultrasound guidance by trained operators in a dedicated interventional radiology facility. A total of 1127 CVADs were assessed in 727 patients over 51,514 line-days. The rate of CABSI per 1000 line-days was 2.50. Factors associated with CABSI included: type of CVAD, greatest for non-tunnelled lines and tunnelled lines (HR: 1.77;  $P = 0.011$ ) compared to peripherally inserted central venous catheter (PICC) lines; patient diagnosis, greatest for aggressive haematological malignancies (HR: 3.17;  $P = 0.0007$ ) and least for oesophageal, colon and rectal cancers (HR: 0.29;  $P = 0.019$ ) compared to other solid tumours; side of insertion, greatest for right-sided lines (HR: 1.60;  $P = 0.027$ ); and number of prior line insertions (HR: 1.20;  $P = 0.022$ ). In patients with aggressive haematological malignancies there was significantly more CABSI with non-tunnelled lines (HR: 3.9;  $P < 0.001$ ) and a trend to more CABSI with tunnelled lines (HR: 1.43;  $P = 0.12$ ) compared to patients with PICC lines, as well as increased CABSI for right-sided insertions (HR: 1.62;  $P = 0.047$ ). This study highlights the

utility of a standardised CABSI surveillance strategy in adult patients with cancer, provides further data to support the use of PICC lines in such patient populations, and suggests that the side of line insertion may influence risk of CABSI.

