“The factors associated with increased positional catheter tip movement for left IJV ports include patient age, BMI, innominate vein angle and dual- vs single-lumen port” Wallace et al (2015).

Reference:

Wallace, J.A., Afonso, E., Yu, H., Birchard, K. and Isaacson, A. (2015) Factors that predict increased catheter tip movement in left internal jugular vein implantable venous access ports upon standing. The Journal of Vascular Access. January 17th. .

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Abstract:

Purpose: To determine the characteristics that predict catheter tip movement with positional changes in patients with left-sided, internal jugular vein (IJV) implantable venous access ports.

Methods: A retrospective review revealed 264 patients with left IJV ports placed at one academic institution from 2008 to 2013 with follow-up upright chest radiographs. Demographic information was recorded and anatomic measurements were made on both procedural fluoroscopic imaging and upright chest radiographs. Multivariate regression analysis was performed to determine which factors had statistically significant relationships with catheter tip movement distance.

Results: Mean catheter tip movement was 1.49 ± 1.97 cm. There was a statistically significant positive relationship between catheter tip movement distance and age ($p = 0.03$), body mass index (BMI) ($p = 0.02$), innominate vein angle ($p<0.01$) and dual- compared to single-lumen ports ($p = 0.02$). Port pocket location, venous access site and gender did not demonstrate statistical significance.

Conclusions: The factors associated with increased positional catheter tip movement for left IJV ports include patient age, BMI, innominate vein angle and dual- vs single-lumen port. This information can be useful in determining initial placement position and avoiding complications associated with catheter malposition.

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