



PIVO™ collections facilitated improvement in the rate and degree of sample hemolysis when compared to venipuncture and central line blood collections” Natali et al (2018).

Abstract:

OBJECTIVES: Blood collections from peripheral intravenous catheters offer several benefits to patients, including reduced needle punctures and patient discomfort, but they risk reducing the quality of blood specimens analyzed by the laboratory. In an effort to balance analytical quality of test results with patient-centered care initiatives, a needle-less blood collection device called PIVO™ was evaluated at two institutions. The primary objective of this study was to assess the ability of the PIVO™ device to provide high-quality blood specimens for laboratory testing compared to current blood collection methods.

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METHODS: Blood specimens drawn using the PIVO™ device were prospectively flagged. A retrospective review was performed comparing the degree and rate of hemolysis for PIVO™ blood collections to both concurrent and historical hemolysis rates for other collection methods.



RESULTS: Approximately 7600 PIVO™ blood draws were performed across the two institutions. The hemolysis rates of samples collected with PIVO™ were evaluated using 2380 flagged collections, containing approximately 1200 test orders requiring hemolysis index measurements. The hemolysis rate of PIVO™-flagged samples (1.8%) was statistically superior to the venipuncture and central line blood collection methods (3.3%), reducing the risk of hemolysis during a venous blood draw by 39%.

CONCLUSIONS: PIVO™ collections facilitated improvement in the rate and degree of sample hemolysis when compared to venipuncture and central line blood collections. These findings suggest that PIVO™ is capable of delivering samples that are superior to current blood collection methods in terms of hemolysis rate as well as reducing the number of invasive venipunctures required for laboratory testing.

Reference:

Natali, R., Wand, C., Doyle, K. and Noguez, J.H. (2018) Evaluation of a new venous catheter blood draw device and its impact on specimen hemolysis rates. January 4th. eCollection.

doi: 10.1016/j.plabm.2018.01.002.

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