

## **Fewer than half of patients who initiated HD with a CVC had vascular imaging” McGill et al (2016).**

### Abstract:

**Introduction:** Central venous catheters (CVC) increase risks associated with hemodialysis (HD), but may be necessary until an arteriovenous fistula (AVF) or graft (AVG) is achieved. The impact of vascular imaging on achievement of working AVF and AVG has not been firmly established.

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**Methods:** Retrospective cohort of patients initiating HD with CVC in 2010-2011, classified by exposure to venography or Doppler vein mapping, and followed through December 31, 2012. Standard and time-dependent Cox models were used to determine hazard ratios (HRs) of death, working AVF, and any AVF or AVG. Logistic regression was used to assess the association of preoperative imaging with successful AVF or AVG among 18,883 individuals who had surgery. Models were adjusted for clinical and demographic factors.

**Findings:** Among 33,918 patients followed for a median of 404 days, 39.1% had imaging and 55.7% had surgery. Working AVF or AVG were achieved in 40.6%; 46.2% died. Compared to nonimaged patients, imaged patients were more likely to achieve working AVF (HR = 1.45 [95% confidence interval 1.36, 1.55],  $P < 0.001$ ), any AVF or AVG (HR = 1.63 [1.58, 1.69],  $P > 0.001$ ), and less likely to die (HR = 0.88 [0.83-0.94],  $P < 0.001$ ). Among patients who had surgery, the odds ratio for any successful AVF or AVG was 1.09 (1.02-1.16,  $P = 0.008$ ).

**Discussion:** Fewer than half of patients who initiated HD with a CVC had vascular imaging. Imaged patients were more likely to have vascular surgery and had increased achievement of working AV fistulas and grafts. Outcomes of surgery were similar in patients who did and did not have imaging.

### Reference:

McGill, R.L., Ruthazer, R., Lacson, E. Jr., Meyer, K.B., Miskulin, D.C. and Weiner, D.E. (2016) Vascular imaging for hemodialysis vascular access planning. Hemodialysis



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