



### PERIPHERAL ARTERIAL DISEASE TESTING PRIOR TO AMPUTATION IN MEDICARE PATIENTS

Oral Contributions

West, Room 3005

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**Background:** Despite mild reductions in the rates of lower extremity (LE) amputation over the past decade there is little data examining the use of arterial testing in patients prior to LE amputation. We characterized the rates of pre-amputation arterial testing in Medicare beneficiaries undergoing non-traumatic LE amputation from 2002-2010.

**Methods:** Using 5% Medicare 2000 - 2010 data, we identified all patients undergoing non-traumatic LE amputation. For each patient, we examined the utilization of pre-amputation arterial testing in the 12 months prior to amputation. Multivariable modified Poisson regression models were used to identify patient and clinical predictors of pre-amputation arterial testing.

**Results:** Among 17,463 patients undergoing non-traumatic amputation, 68.4% underwent some type of arterial testing, while 47.5% underwent ankle-brachial index ABI. Utilization of pre-amputation arterial testing varied significantly by level of amputation and was lowest in foot, followed by above knee amputations (AKA), and below knee amputations (BKA) (62.5%, 69.0%, 76.7%,  $p<0.0001$ ). Although there was a statistically significant increase in overall arterial testing over the study period (65.7% in 2002 vs. 69.2% in 2010,  $p=0.0002$ ), in both AKAs and BKAs the levels of pre-amputation arterial testing remained below 80%. After multivariable adjustment black race (ARR = 1.10, 95% CI [1.08 - 1.13],  $p<0.001$ ), renal disease [ARR = 1.10, 95% CI [1.08 - 1.13],  $p<0.0001$ ], diabetes mellitus (ARR = 1.09, 95% CI [1.06 - 1.12],  $p<0.001$ ), known peripheral arterial disease (ARR = 1.10, 95% CI [1.07 - 1.12],  $p<0.001$ ), and previous evaluation by a vascular specialist (ARR = 1.09, 95% CI [1.06 - 1.11],  $p<0.001$ ) were associated with an increased likelihood of pre-amputation arterial testing.

**Conclusion:** The use of pre-amputation arterial testing is low. Multiple patient, provider, and geographic factors are predictive of the utilization of pre-amputation arterial testing. Low rates of arterial testing prior to LE amputation may represent a significant opportunity to improve quality of care and potentially identify targets for intervention to improve the LE amputation rate.