

**AWARD FOR THE BEST ORIGINAL RESEARCH PRESENTATION AT THE WCMSR BASED ON THE JUDGES AVERAGE SCORES, 3rd PLACE:****Key words:** Stroke; Acute Ischemic Stroke; Prehospital; Emergency Medical Services.15. **DETERMINING THE ABILITY OF THE VISION, APHASIA, AND NEGLECT (VAN) STROKE SCALE TO IDENTIFY LARGE VESSEL OCCLUSION STROKES WITHIN THE PREHOSPITAL SETTING: A PROSPECTIVE COHORT STUDY.**Lydia Leavitt<sup>1</sup>.<sup>1</sup> University of Illinois College of Medicine, United States. <https://www.youtube.com/watch?v=0JIMP5Fyl7s&t=19685s>

**INTRODUCTION:** There are several stroke assessment scales designed to identify large vessel occlusions (LVOs), and a rising area of research is concerned with identifying those that outperform others in accuracy. One scale that has shown promise is the vision, aphasia, and neglect (VAN) scale. Our understanding of this scale's true performance, however, is limited as a majority of previous studies have been carried out in the hospital setting. The objective of this study is to evaluate the ability of the VAN scale to predict LVOs in the prehospital setting. **METHODS:** Prospective cohort study comparing emergency medical service personnel administered VAN results to hospital discharge diagnoses to evaluate VAN's ability to predict a large vessel occlusion stroke. Main outcome measures included VAN sensitivity, specificity, positive and negative predictive values, positive and negative likelihood ratios, and accuracy. A receiver operating characteristic curve was also produced to illustrate the diagnostic ability of VAN graphically. **RESULTS:** Emergency medical service personnel administered the VAN assessment to 185 patients suspected of having a stroke. VAN had a sensitivity of 0.81 (CI, 0.61 to 0.93), specificity 0.56 (CI, 0.48 to 0.64), positive predictive value 0.24 (CI, 0.61 to 0.34), negative predictive value 0.95 (CI, 0.87 to 0.98), positive likelihood ratio 1.87 (CI, 1.45 – 2.40), negative likelihood ratio 0.33 (CI, 0.15 – 0.73), and 60% accuracy (CI, 53% - 61%) for large vessel occlusion identification. **CONCLUSION:** When negative, VAN offers relatively high assurance that the patient is not suffering a large vessel occlusion stroke. However, VAN is non-specific for large vessel occlusions and results in many false positives. Therefore, pre-hospital decision-making regarding triage should not rely exclusively on VAN due to possible over-triage to facilities with endovascular capabilities.

**Table.** VAN Performance Characteristics to Predict Large Vessel Occlusions.

VAN Results	Hospital Confirmed LVO	
	Positive	Negative
Positive	22	69
Negative	5	89
<b>Total</b>	<b>27</b>	<b>158</b>
<b>Value</b>	<b>95% Confidence Interval</b>	
Sensitivity	0.81	0.61 – 0.93
Specificity	0.56	0.48 – 0.64
PPV	0.24	0.16 – 0.34
NPV	0.95	0.87 – 0.98
PLR	1.87	1.45 – 2.40
NLR	0.33	0.15 – 0.73
Accuracy	0.60	0.53 – 0.61