

VAN Assessment for EMS

Amanda Webb, BSN, RN, RN-BC, SCRNP
CBRAC Stroke Systems Chairperson

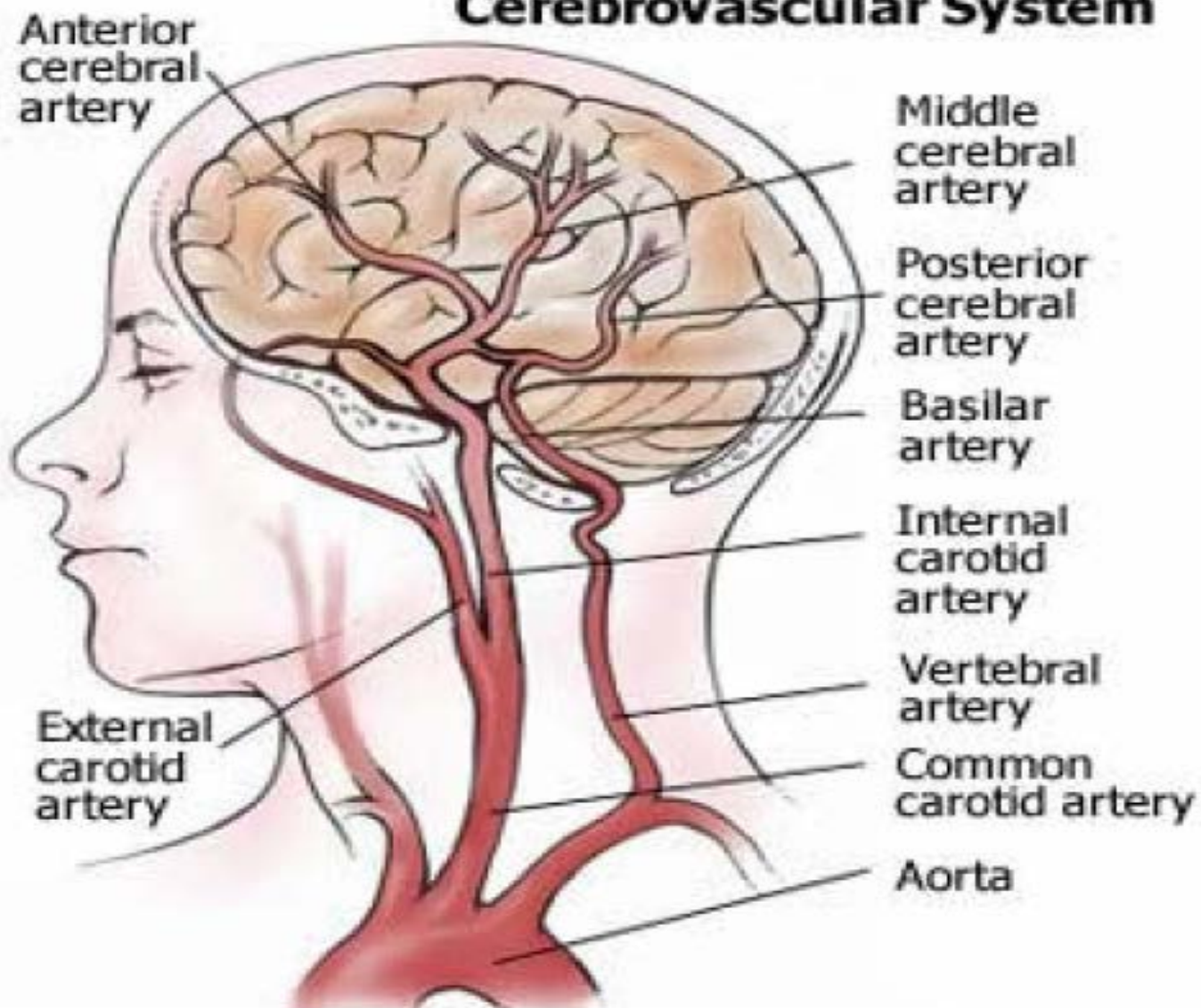
What is an ELVO?

- ▶ Emergent Large Vessel Occlusion
- ▶ Cortical signs will be present (Vision, Aphasia, Neglect)

Why the need for an additional assessment?

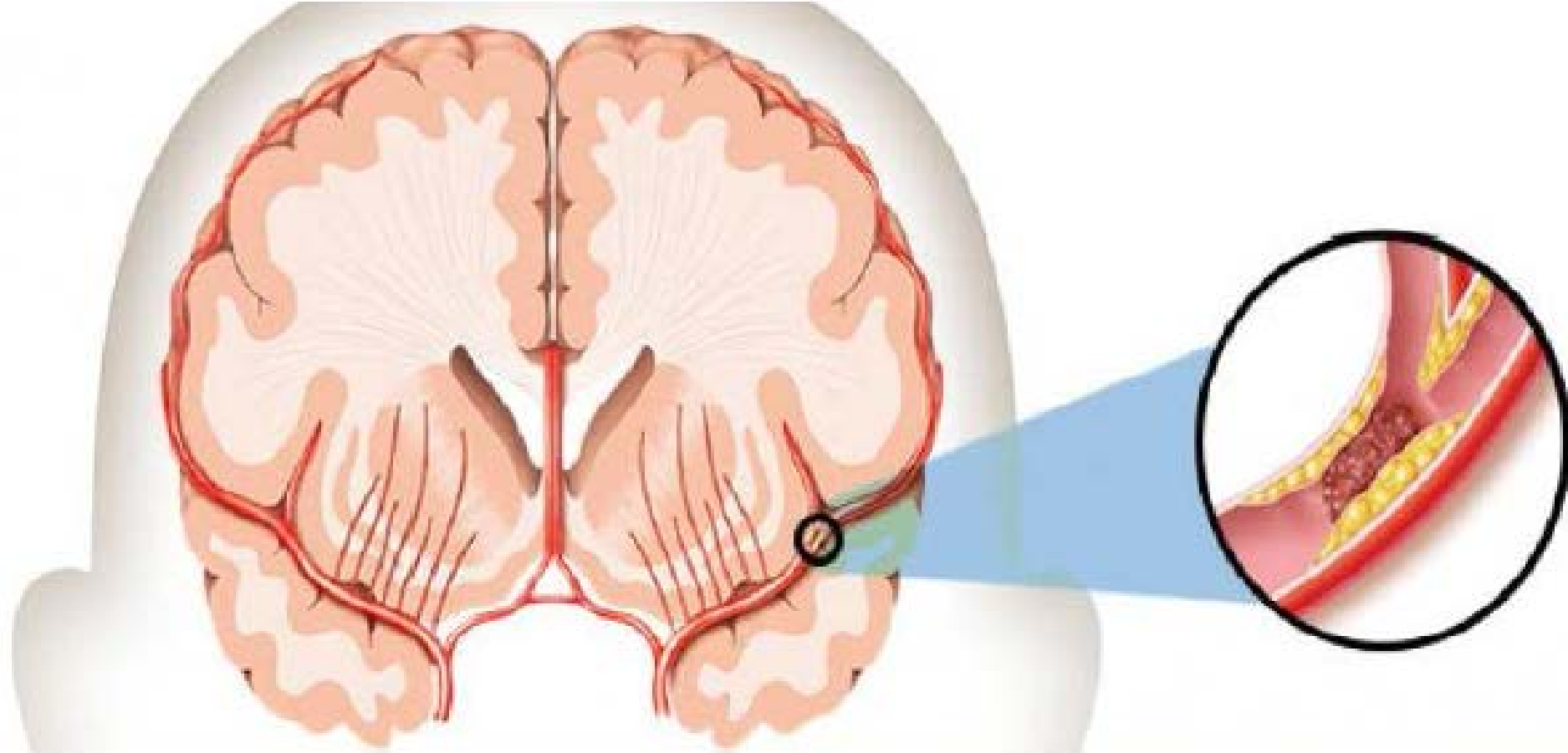
- ▶ In February 2018 the American Heart Association released new Acute Ischemic Stroke Guidelines for the treatment of stroke
- ▶ This extended the window for Endovascular treatment for ELVO from <6 hours to <24 hours
 - ▶ Wake up strokes that are VAN positive and meet criteria with ELVO's, can now receive treatment for their stroke symptoms

Cerebrovascular System



What is Stroke VAN?

It is a way to tell if someone is having a large artery stroke. Large artery stroke types tend to have worse outcomes and disable people. They are best treated with the additional use of Neurointerventional clot retrieval. Using VAN can assist people in getting loved ones in a center that performs these procedures, in turn giving them the best possible chance of functioning independently.



Why Was it Developed?

There are other large artery stroke / large vessel occlusion (LVO) screening tools but some are longer, some are less accurate, and some over estimate the number of people that actually have a large clot. We had a genuine desire to get patients that have a massive stroke to the appropriate care faster. VAN allows us to identify these patients in the field by loved ones, EMS, and as soon as patient arrives to the hospital by trained nurses.

What Does VAN Stand For?

Vision – Can someone see to the left, right, up and down?

Aphasia – Medical term for understanding language and producing language.

Neglect – When someone looks to one side and ignores the other side. They usually have eyes looking to left or right.



Stroke &
Neurovascular
Services

Time of onset: < 4 hr, > 4 hr or unknown

EMS VAN: Acute Stroke Screening Tool

Is ARM weakness present?

- Yes **Continue the VAN exam**
- No. **Patient is VAN negative. Stop VAN Exam.**

	Yes	No
Visual Disturbance?		
Aphasia?		
Neglect?		

If patient has **any degree of weakness PLUS any one of the below:**

Visual Disturbance (Assess field cut by testing both sides, 2 fingers right, 1 left)

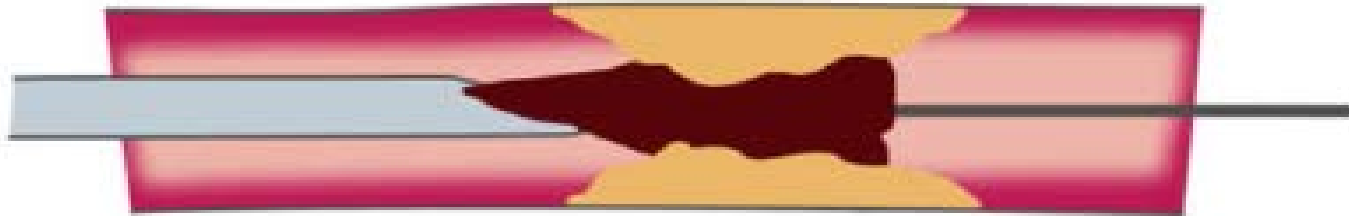
Aphasia (Inability to speak or understand. Repeat and name 2 objects, close eyes, make fist)

Neglect (Forced gaze to one side or ignoring one side, touching both sides)

This is likely a large artery clot (cortical symptoms) = VAN Positive

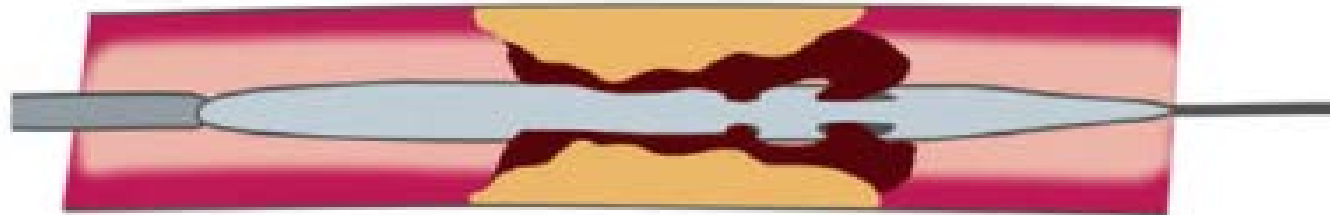
Thrombectomy

Catheter aspiration thrombectomy



Blood clot is removed using suction

Mechanical thrombectomy

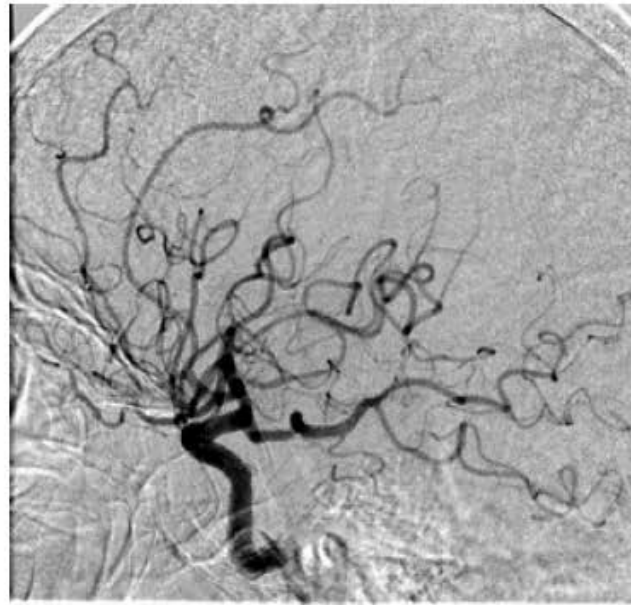


Blood clot is broken up into small pieces and removed



Pre Intervention

Post intervention



Removed Thrombus

References

- ▶ Teleb MS, Ver Hage A, Carter J, et al. Stroke vision, aphasia, neglect (VAN) assessment—a novel emergency large vessel occlusion screening tool: pilot study and comparison with current clinical severity indices. *J Neurointerv Surg*, 2017 Feb; 9(2): 122–6.
- ▶ Powers, William J, et al. “AHA/ASA Guidelines.” 2018 Guidelines for the Early Management of Patients With Acute Ischemic Stroke: A Guideline for Healthcare Professionals From the American Heart Association/American Stroke Association. Retrieved from <http://ahajournals.org>.