

Initial Hospital Management of ELVO

1. Early non-contrast CT (NCCT) imaging and final interpretation (ideally, <15 min from presentation to PSC or CSC) is essential as further stroke care delivery is dependent on the results of this examination (AHA Class I, Level of Evidence A).
2. Patients should be transported directly from the EMS arrival entrance to the CT scanner whenever possible.
3. Endovascular therapy should complement and not replace IV administration of recombinant tPA in eligible patients (AHA Class I, Level of Evidence A).
4. The risk of iodinated contrast nephrotoxicity should never delay CTA to determine the presence or absence of a clinically devastating ELVO^{42 43}(AHA Class I, Level of Evidence B).
5. Ideally, identification of ELVO should be completed within 10 min of CTA acquisition and the treating team informed.
6. CTA is the most accurate and efficient noninvasive means of confirming or excluding the presence of an ELVO and should be performed as quickly as possible in those patients in whom an LVO (severe stroke) is suspected (AHA Class I, Level of Evidence B).
7. Any facility that manages or receives patients with stroke (primary stroke, comprehensive stroke, or other) must have the capability to rapidly perform CTA to identify patients with ELVO. At a minimum, CTA vessel imaging should be performed in all patients who meet a predefined clinical severity threshold. MRA can be substituted for CTA in those patients with severe iodinated contrast allergy. If circumstances dictate that non-invasive vascular imaging (CTA or MRA) will unnecessarily delay EVT, it is reasonable to forgo CTA and perform catheter-directed digital subtraction angiography in conjunction with EVT as rapidly as possible.
8. Independently of a patient's candidacy for IV tPA, once an ELVO is suspected either by prehospital triage or initial evaluation using a clinical scoring system and/or confirmed by CTA, the patient should be efficiently transported by the brain attack and ELVO response teams to the angiography suite, with groin puncture times ideally <60 min from arrival. For patients with ELVO evaluated at a PSC, transfer to a CSC should be initiated if groin puncture can be achieved within 6 h of symptom onset (AHA Class 1, Level of Evidence A). Beyond 6 h, the benefit of embolectomy is less certain (AHA Class 2b, Level of Evidence C).
9. A patient in the field with a suspected ELVO by EMS (based on an appropriate field severity score) should be triaged to the closest CSC, bypassing other facilities as patient stability, local policy, and additional transport time (geography) allow (AHA Class I, Level of Evidence A).

REFERENCE LINK:

McTaggart RA et al. "Initial hospital management of patients with emergent large vessel occlusion (ELVO): report of the standards and guidelines committee of the Society of NeuroInterventional Surgery," *J Neurointerv Surg*. 2017. 9:316-23.