

Memorial Hermann Stroke System Endovascular Protocol for Acute Stroke Intervention

The following criteria describe patients considered to be good candidates for endovascular therapy (EVT) based on the latest endovascular trials. For patients that meet the criteria, please see the EVT Activation Process guideline in the – Memorial Hermann Clinical Practice Guidelines.

The final decision to proceed with intervention will be made by the treating **endovascular** physician. Inclusion or exclusion of specific patients for intervention, and/or deviation from the following protocol will be at the discretion of **and after a discussion between** the stroke neurology team and treating **endovascular** physician.

Early time window (0-6 hours) presenters (HERMES meta-analysis¹).

Anterior Circulation:

- NIHSS ≥ 6 at presentation
- Confirmed intracranial occlusion based on CTA/MRA in anterior circulation (intracranial ICA, M1, proximal M2)
- ASPECTS ≥ 6
- Good functional status: pre-stroke **mRS (0-2)**

Posterior circulation strokes:

- Confirmed intracranial occlusion based on CTA/MRA in basilar artery
- Extensive brainstem infarction not evident by clinical findings and/or neuroimaging

Late time window (6-24 hours) presenters (DAWN², DEFUSE 3³, TRACK⁴, NASA⁵, SNIS Guidelines⁶)

Anterior Circulation:

- NIHSS ≥ 6 at presentation.
- Confirmed intracranial occlusion based on CTA/MRA in anterior circulation (intracranial ICA, M1, proximal M2)
- Evidence of significant mismatch on clinical exam + imaging (CT/MRI) or perfusion imaging (CT perfusion or MR perfusion.)
- Good functional status: pre-stroke **mRS (0-2)**.

Posterior circulation strokes:

- Basilar occlusion by CTA/MRA.
- Extensive brainstem infarction not evident by clinical findings and/or neuroimaging.

References:

1. Goyal M, Menon BK, van Zwam WH, et al. Endovascular thrombectomy after large-vessel ischaemic stroke: a meta-analysis of individual patient data from five randomised trials. *Lancet (London, England)*. 2016;387(10029):1723-1731. doi:10.1016/S0140-6736(16)00163-X
2. Nogueira RG, Jadhav AP, Haussen DC, et al. Thrombectomy 6 to 24 Hours after Stroke with a Mismatch between Deficit and Infarct. *N Engl J Med*. 2018;378(1):11-21. doi:10.1056/NEJMoa1706442
3. Albers GW, Marks MP, Kemp S, et al. Thrombectomy for Stroke at 6 to 16 Hours with Selection by Perfusion Imaging. *N Engl J Med*. 2018;378(8):708-718. doi:10.1056/NEJMoa1713973
4. Zaidat OO, Castonguay AC, Nogueira RG, et al. TREVO stent-retriever mechanical thrombectomy for acute ischemic stroke secondary to large vessel occlusion registry. *J Neurointerv Surg* 2018;10:516-24.
5. Zaidat OO, Castonguay AC, Gupta R, et al. North American Solitaire stent retriever acute stroke registry: post-marketing revascularization and clinical outcome results. *J Neurointerv Surg* 2014;6:584-8.
6. Mokin M, Ansari SA, McTaggart RA Society of NeuroInterventional Surgery, et al. Indications for thrombectomy in acute ischemic stroke from emergent large vessel occlusion (ELVO): report of the SNIS Standards and Guidelines Committee *Journal of NeuroInterventional Surgery* 2019;11:215-220.

