Table 1. mTICI Revascularization Scale Scores (30,31,113)

Score	Description
0	No perfusion, complete obstruction; no flow past occlusion of "major" vessel
1	Perfusion past initial obstruction but limited distal branch filling with little/slow distal perfusion
2a	Partial perfusion: < 50% of "major" vascular territory perfused (eg, filling and complete perfusion through one M2 division)
2b	Partial perfusion: ≥ 50% of major vascular territory is filled, but there is not complete and normal perfusion of entire territory
3	Complete or full perfusion with filling of all distal branches

mTICI = modified thrombolysis in cerebral infarction.

(mRS; **Table 2**) (35) assessed 90 days after treatment. This does not exclude clinically significant benefit in patients in whom an mRS score of 2 is not achieved.

INDICATIONS AND CONTRAINDICATIONS

EVT for acute ischemic stroke with large vessel occlusion is established in guidelines as the standard of care (22,36). If the patient is also eligible for intravenous TPA, this drug should be administered as a "bridging" strategy in parallel without delaying thrombectomy. Waiting to assess "response" to TPA is strongly discouraged (22), as clinical improvement may not indicate recanalization. The rate of TPA-induced recanalization before thrombectomy (performed without delay) was < 10% in recent randomized trials (11,13,20). Proceeding directly to thrombectomy (ie, direct thrombectomy) should be performed in appropriate candidates with a contraindication to TPA, including risk of hemorrhage or when > 4.5 hours have elapsed since stroke onset.

Indications and contraindications for EVT are based on subgroup analyses of randomized trials and case series. Clinical trials tend to have more restrictive criteria, whereas case series represent more of a "real-world" experience. Potential selection criteria are based on stroke severity, time (ie, duration of symptoms), imaging, clot location, age, and comorbidities.

Stroke severity.—Clinical trials have set variable NIHSS score limits for eligibility, often requiring ≥ 6, 8, or 10 points. The Multicenter Randomized Clinical Trial of Endovascular Treatment for Acute Ischemic Stroke in the Netherlands (MR CLEAN) trial had a minimum NIHSS score of 2 and Extending the Time for Thrombolysis in Emergency Neurological Deficits -Intra-arterial (EXTEND-IA) had no NIHSS score limits, but, given the requirement for large vessel occlusion, few patients with NIHSS scores < 6 were enrolled (37). Individual patient data meta-analysis of five positive randomized trials (14) demonstrated highly consistent treatment effects across the NIHSS score spectrum, at least for NIHSS scores ≥ 6. Data from observational studies have demonstrated an important incidence of large vessel occlusion in patients with clinically mild stroke and a propensity for these patients to later experience neurologic deterioration (38). The risk/benefit in patients with low NIHSS scores therefore needs to be carefully considered, and future studies have to address whether endovascular procedures are beneficial in patients with mild symptoms and proximal vessel occlusion. There are no data supporting an upper limit on stroke severity.

Time.—Most trials of intraarterial lytic agents and mechanical revascularization devices have historically required start of treatment within 6 or 8 hours (39–42) for anterior-circulation strokes. The strongest evidence for EVT is for treatment commenced within 6 hours (14,43). More rapid time to reperfusion has been linked to improved clinical outcomes and is therefore an important consideration in patient selection (43–45). A few patients in recent trials were treated at 6–8 hours in the Randomized Trial of Revascularization with Solitaire FR Device versus Best Medical Therapy in the Treatment of Acute Stroke Due to Anterior Circulation Large Vessel Occlusion Presenting within Eight Hours of Symptom Onset (REVASCAT) trial (15) and at 6–12 hours in the Endovascular Treatment for Small Core and Anterior Circulation Proximal Occlusion with Emphasis on Minimizing CT to Recanalization Times (ESCAPE) trial (13). Individual patient data meta-analysis suggests significant benefit to at least 7 hours, 18 minutes (46). Observational studies have suggested that patients presenting at later time points with favorable imaging findings still benefit from reperfusion (47), and this was confirmed in the DWI or CTP Assessment with Clinical Mismatch in the Triage of Wake-Up and Late Presenting Strokes Undergoing Neurointervention with Trevo (DAWN) trial (48), which used clinical–core mismatch criteria to select patients 6–24 hours after the "last known well" time. In the DAWN trial (48), independent functional outcome occurred in 48.6% of patients who underwent endovascular treatment versus 13.1% of control patients ($P < .0001$) with similar revascularization success as 0–6-hour thrombectomy trials and no variation in treatment effect between the 6–12-hour and 12–24-hour treatment windows. Other randomized trials in extended time windows are ongoing (49,50). Vertebrobasilar occlusions have been treated at extended times, sometimes more than 24–48 hours after symptom onset (51,52). This is partly because of the traditional definition of onset as the last known well time. Patients with basilar artery occlusion may have prodromal mild symptoms in 60% of cases before the development of severe deficits (53). The Basilar Artery International Cooperation Study (BASICS) registry (53) advocated using time of severe deficit (ie, likely moment of occlusion) and found that good outcome with reperfusion beyond 9 hours of that time was extraordinarily rare (53). Randomized trials in patients with basilar artery occlusion are ongoing (54,55).

Table 2. mRS Scores (35)

Score	Description
0	No symptoms
1	No significant disability: able to carry out all usual activities despite some symptoms
2	Slight disability: able to look after own affairs without assistance but unable to carry out all previous activities
3	Moderate disability: requires some help but able to walk unassisted
4	Moderately severe disability: unable to attend to own bodily needs without assistance and unable to walk unassisted
5	Severe disability: requires constant nursing care and attention, bedridden, incontinent
6	Dead

mRS = modified Rankin scale.

Imaging.—Noncontrast CT has been an essential component of patient selection in randomized trials of intravenous and endovascular revascularization for treatment of acute stroke (1,7,11,13,15,20,39–41,56). Absolute noncontrast CT contraindications to endovascular treatment are similar to those for intravenous thrombolytic agents and include the presence of acute intracranial hemorrhage or a significant established infarct (1).

Infarct size can be approximated on noncontrast CT by using the Alberta Stroke Program Early CT Score (ASPECTS) (57,58). However, the score is not closely related to infarct volume or functional eloquence and has variable interrater agreement, particularly early after stroke onset. In recent randomized trials, there was clear benefit in patients with ASPECTS 6–8 and 9/10. Relatively few patients with ASPECTS 0–5 were included in the trials. The benefit in this group appeared to be of lesser magnitude, but a clinically meaningful benefit could not be excluded (14). Patients with ASPECTS 3–5 will be evaluated in a randomized trial (59).

The hyperdense middle cerebral artery sign can alert clinicians to the presence of a large vessel occlusion. This sign has a high degree of