

# Modified treatment in cerebral ischaemia score

The modified treatment in [cerebral infarction](#) (mTICI) [score](#) was developed from the original [Thrombolysis](#) in Cerebral Infarction (TICI) scale by a consensus group in 2013 <sup>1)</sup>.

The recommendations included a name change to better reflect the increasing use of endovascular therapy for stroke, and simplification of the TICI 2 component to less than half of the target vascular territory (mTICI 2a) or more than half (mTICI 2b).

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Complete or near-complete [reperfusion](#) (modified Thrombolysis in Cerebral Ischemia (mTICI) score of 2 c/3) is associated with improved outcomes compared with partial [recanalization](#) (mTICI 2b).

## Classification

grade 0: no perfusion

grade 1: antegrade reperfusion past the initial occlusion, but limited distal branch filling with little or slow distal reperfusion

grade 2

grade 2a: antegrade reperfusion of less than half of the occluded target artery previously ischemic territory (e.g. in one major division of the middle cerebral artery (MCA) and its territory)

grade 2b: antegrade reperfusion of more than half of the previously occluded target artery ischemic territory (e.g. in two major divisions of the MCA and their territories)

grade 3: complete antegrade reperfusion of the previously occluded target artery ischemic territory, with absence of visualised occlusion in all distal branches

A review of scoring systems for flow restoration after endovascular revascularisation <sup>2)</sup> observed that some authors had proposed a further modification with the introduction of a “grade 2c” <sup>3)</sup> (“near complete perfusion except for slow flow or distal emboli in a few distal cortical vessels”), but that this had not yet reached consensus approval.

<sup>1)</sup>

Zaidat OO, Yoo AJ, Khatri P, Tomsick TA, von Kummer R, Saver JL, Marks MP, Prabhakaran S, Kallmes DF, Fitzsimmons BF, Mocco J, Wardlaw JM, Barnwell SL, Jovin TG, Linfante I, Siddiqui AH, Alexander MJ, Hirsch JA, Wintermark M, Albers G, Woo HH, Heck DV, Lev M, Aviv R, Hacke W, Warach S, Broderick J, Derdeyn CP, Furlan A, Nogueira RG, Yavagal DR, Goyal M, Demchuk AM, Bendszus M, Liebeskind DS; Cerebral Angiographic Revascularization Grading (CARG) Collaborators; STIR Revascularization working group; STIR Thrombolysis in Cerebral Infarction (TICI) Task Force. Recommendations on angiographic revascularization grading standards for acute ischemic stroke: a consensus statement. *Stroke*. 2013 Sep;44(9):2650-63. doi: 10.1161/STROKEAHA.113.001972. Epub 2013 Aug 6. PubMed PMID: 23920012; PubMed Central PMCID: PMC4160883.

2)

Gerber JC, Miaux YJ, von Kummer R. Scoring flow restoration in cerebral angiograms after endovascular revascularization in acute ischemic stroke patients. *Neuroradiology*. 2015 Mar;57(3):227-40. doi: 10.1007/s00234-014-1460-x. Epub 2014 Nov 19. Review. PubMed PMID: 25407716.

3)

Almekhlafi M, Mishra S, Desai J et-al. *Interventional Neuroradiology*. 2014;20 (1): . doi:10.15274/INR-2014-10004

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