

International Carotid Stenting Study (ICSS)

The International Carotid Stenting Study (ICSS) was the largest of the trials assessed that compared carotid artery stenting with carotid endarterectomy in patients with symptomatic carotid artery stenosis, and reported an interim safety analysis of outcomes within 120 days of randomisation in 2010 ¹⁾.

The ICSS primary analysis shows that stenting is as effective as endarterectomy in preventing fatal or disabling stroke in patients with symptomatic Carotid artery stenosis up to 10 years after treatment. Carotid stenting was associated with a higher procedure-related and long-term risk of non-disabling stroke than endarterectomy, but functional ability did not differ overall. Both treatments seemed to be equally preventive against ipsilateral stroke and severe restenosis of the treated carotid artery.

Long-term functional outcome and risk of fatal or disabling stroke are similar for [stenting](#) and [carotid endarterectomy](#) for symptomatic [carotid artery stenosis](#) ²⁾.

The ICSS trial randomized 1710 patients across 50 centers with symptomatic [carotid artery disease](#) to [stenting](#) versus [endarterectomy](#). Given the 10-year study horizon, substantial variability in stenting procedural strategy and devices occurred. The intention-to-treat analysis was high fidelity. Only 9 and 15 patients crossed over to endarterectomy and stenting respectively; 16 stent patients and 21 endarterectomy patients never received the procedure.

Overall, both treatments provided durable patency of the target vessel and comparable frequency of fatal or disabling strokes (52 versus 49 events). CEA and CAS were equivalent at this 5-year primary end point.

Though minor stroke events (119 versus 72; 5 year HR 1.75 with p value < 0.001) were higher in the stenting group, functional outcome by mRS were identical. Minor stroke events with stenting commonly involved other territories and may be attributable to aortic arch access. Two enrolling sites were further stopped from further stent enrollment due to outlier interventional complication rates; these complications were included in the final trial results.

Outcomes of [carotid endarterectomy](#) (CEA) or carotid angioplasty and stenting (CAS) for asymptomatic disease in patients on dialysis are not well characterized, with questionable stroke prevention and survival. Patients on dialysis have high perioperative and long-term stroke or death rates after CEA or CAS for asymptomatic stenosis, with a median survival that is less than recommended by current guidelines. As a result, carotid intervention in these patients appears to be inappropriate ³⁾.

¹⁾

International Carotid Stenting Study investigators. Carotid artery stenting compared with endarterectomy in patients with symptomatic Carotid artery stenosis (International Carotid Stenting Study): an interim analysis of a randomised controlled trial. *Lancet* 2010; 375: 985–97.

²⁾

Bonati LH, Dobson J, Featherstone RL, Ederle J, van der Worp HB, de Borst GJ, Mali WP, Beard JD, Cleveland T, Engelter ST, Lyrer PA, Ford GA, Dorman PJ, Brown MM; International Carotid Stenting Study investigators. Long-term outcomes after stenting versus endarterectomy for treatment of symptomatic Carotid artery stenosis: the International Carotid Stenting Study (ICSS) randomised trial. *Lancet*. 2015 Feb 7;385(9967):529-38. doi: 10.1016/S0140-6736(14)61184-3. Epub 2014 Oct 14. PubMed PMID: 25453443; PubMed Central PMCID: PMC4322188.

³⁾

Yuo TH, Sidaoui J, Marone LK, Makaroun MS, Chaer RA. Revascularization of asymptomatic Carotid artery stenosis is not appropriate in patients on dialysis. J Vasc Surg. 2015 Mar;61(3):670-4. doi: 10.1016/j.jvs.2014.10.002. PubMed PMID: 25720927.

From:

<https://neurosurgerywiki.com/wiki/> - **Neurosurgery Wiki**

Permanent link:

https://neurosurgerywiki.com/wiki/doku.php?id=international_carotid_stenting_study

Last update: **2025/07/03 00:13**

