

Evidence Table 1. Key Randomized Controlled Trials Assessing CAS vs CEA (since the 2009 National Coverage Determination)

Year published (enrollment)	Trial / 1st Author	Study Population				Intervention / Comparator	Outcome (primary)	Time (Duration in years)	Other Events	Results
		Clinical characteristics	Age	Sex	Race					
Foundational RCTs: CEA v OMT										
1998 (1981-94)	ECST / MRC group	N = 3,018 <ul style="list-style-type: none"> Recently symptomatic (within 6 mos) Any carotid stenosis 	Age, years, mean (SD): 62.3-62.5 (8.0-8.1) across study arms	Male, N (%): 2,168 (72%) Female, N (%): 850 (28%)	Not reported	<u>CEA v OMT</u>	Composite of surgical (procedural) events and all major strokes. Stroke-free life expectancy (time-to-event for major stroke or death, adjusted for age, sex, degree of stenosis).	6	(MIs, Cranial nerve palsies, events other than stroke/death, NR)	CEA superior to OMT if stenosis ≥70-80% ECST criteria (40-60% NASCET criteria); less certainty for women.
1995 (1987-93)	ACAS / Walker	N = 1,662 <ul style="list-style-type: none"> Asymptomatic. Stenosis ≥60%. 	Age, years, mean: 67 <70: 63-65% ≥70: 36-38% across study arms	Male, %: 66% Female, %: 34%	Race, %: White: 94-95% Black: 3% Other: 2-3% across study arms	<u>CEA v OMT</u>	Aggregate risk over 5 years for ipsilateral stroke and any perioperative stroke or death.	5		CEA superior. Risk for primary outcome: 5.1% CEA, 11.0% OMT (relative difference of 53%; absolute difference of 6%).
1998 (1987-96)	NASCET / Barnett	2nd phase (moderate stenosis only) <ul style="list-style-type: none"> N = 2,226 Recently symptomatic (within 6 mos). Stenosis: low moderate (<50%); high moderate (50-69%). 1st phase (severe stenosis, trial stopped). <ul style="list-style-type: none"> Stenosis >70%. Age <80 yrs. 	Age, years, median: 66 <65: 36-41% ≥65: 59-64% across study arms	Male, %: 69-71% across study arms Female, %: 29-31% across study arms	Race, %: White: 93% Black: 3-4% Other: 3-4% across study arms	<u>CEA v OMT</u>	Any ipsilateral stroke (fatal or non-fatal).	5		CEA superior if stenosis >70% NASCET criteria [*trial stopped, at 17% absolute reduction] Rate of death or major stroke 2.1% at 30 days, 6.7% at 8 yrs. CEA slightly superior overall for 50-69%, but depends on patients.
Key RCTs since 2009 NCD										

Year published (enrollment)	Trial / 1st Author	Study Population				Intervention / Comparator	Outcome (primary)	Time (Duration in years)	Other Events	Results
		Clinical characteristics	Age	Sex	Race					
2022 (2009-19)	SPACE-2 / Reiff	N = 513 • Asymptomatic, mod-to-severe (≥50%) stenosis by NASCET criteria.	Age, years, median (IQR): 70 (64-75)	Male, N (%): 381 (74%) Female, N (%): 132 (26%)	Not reported	Parallel RCTs: • <u>CAS v OMT</u> • <u>CEA v OMT</u>	Composite of cumulative incidence of any stroke or death at 30 days or any ipsilateral ischemic stroke at 5 yrs.	5		No difference for the 1° composite outcome in either trial. Trial stopped early due to poor enrollment in OMT arm.

ACAS: Asymptomatic Carotid Atherosclerosis Study

ACST-2: Asymptomatic Carotid Surgery Trial-2

ACT-1: Asymptomatic Carotid Trial

CREST: Carotid Revascularization Endarterectomy versus Stenting

Trial ECST: European Carotid Surgery Trial

ICSS: International Carotid Stenting Study

MI: Myocardial infarction

NASCET: North American Carotid Endarterectomy Trial

SPACE-2: Stent Protected Angioplasty versus Carotid Endarterectomy-2