Table E1. Results from Decision Analytic Model with Base-Case Input Parameter Values

Strategy	REV (%)	Stroke		Life Years*	QALYs*	Costs†			ICER‡
		Events	Deaths			REV	Stroke	Total	
Medical therapy	11	0.141	0.020	12.481 (10.172)	12.025 (9.848)	3217	9092	14 597	Ref
CVR-based decision making	45	0.109	0.015	12.727 (10.187)	12.351 (9.934)	7612	6748	16 583	23 000
Immediate revascularization	100	0.087	0.012	13.017 (10.171)	12.691 (9.940)	14 366	5842	20 950	760 000

Note.—REV = revascularizations, Ref = reference.

* Data in parentheses are life years or QALYs discounted at 3%.

† Costs are in U.S. dollars discounted at 3%.

‡ Data are in dollars per QALY.

Table E2. Sensitivity Analysis Results with Base-Case (70%–89%) Stenosis Starting Point

Variable	Base-Case Value	Medical Therapy Optimal	CVR Strategy Optimal	Immediate Revascularization Optimal	Prespecified Sensitivity Values or Range
Average age (y)	70	>81.3	61.6–81.3	<61.6	60, 80
Men (%)	75	No values exist	All values	No values exist	0, 100
Average annual probability of stroke	0.0113	<0.005	0.005–0.018	>0.018	0.0075–0.0168
Probability of CVR impairment	0.39	No values exist	0.12–0.97	<0.116 or >0.971	0.20–0.60
Odds ratio of stroke for CVR impairment	3.86	No values exist	>1.884	<1.884	1.99–7.48
Annual probability of stenosis progression	0.052	No values exist	<0.117	>0.117	0.034–0.070
Rate ratio of stroke for stenosis progression of one category	1.00	No values exist	All values	No values exist	1.00–1.45
Rate ratio of stroke for stenosis progression of two categories	4.03	No values exist	All values	No values exist	1.82–8.93
Rate ratio of stroke for stenosis progression of three categories	7.56	No values exist	All values	No values exist	1.81–31.56
Rate ratio of stroke for 100% carotid artery luminal narrowing	7.74	No values exist	<22.54	>22.54	2.19–27.44
Annual probability of stenosis regression	0.045	>0.375	<0.375	No values exist	0.024–0.065
Probability of restenosis (from 0%–49% carotid luminal narrowing state)	0.03	>0.22	<0.22	No values exist	0.01–0.04
Relative risk of future stroke for revascularization	0.54	>0.84	0.18–0.84	<0.18	0.43–0.68
Probability of complications during revascularization	0.0197	>0.054	0.008–0.054	<0.008	0.016–0.038
Conditional probability of death given revascularization complication	0.315	No values exist	All values	No values exist	0.1–0.5

Conditional probability of stroke given revascularization complication	0.500	No values exist	All values	No values exist	0.685
Probability of death from stroke (in first year)	0.14	No values exist	All values	No values exist	0.10–0.18
Annual probability of death after stroke or myocardial infarction (after first year)	0.05	No values exist	All values	No values exist	0.048–0.059
Cost*					
Cost of revascularization	14 130	>35 240	6250–35 240	<6250	10 380–32 880
Cost of stroke in first year	65 820	No values exist	All values	No values exist	13 170–80 450
Cost of stroke in all other years (annual)	2030	No values exist	<53 640	>53 640	1940–18 960
Cost of myocardial infarction in first year	22 744	No values exist	All values	No values exist	17 860–61 920
Cost of myocardial infarction in all other years (annual)	3244	No values exist	All values	No values exist	2170–10 300
Cost of transcranial Doppler US	344	No values exist	<1220	>1220	200–2500
Quality of life[†]					
Utility value for asymptomatic carotid stenosis	1.0	<0.656	>0.656	No values exist	0.836
Utility value for moderate to severe stroke	0.39	No values exist	All values	No values exist	0.31–0.52
Utility value for mild stroke	0.76	No values exist	All values	No values exist	0.71–0.87
Utility value for myocardial infarction	0.84	No values exist	All values	No values exist	0.79–0.88
Utility value for revascularization (applied for 2 weeks)	0.77	No values exist	All values	No values exist	1.00
Proportion of strokes that are moderate to severe	0.44	No values exist	All values	No values exist	0.39–0.49

Note.—Cost-effectiveness threshold was $100 000 per QALY.

* All costs are in 2011 U.S. dollars.

[†] Quality of life is represented by utility values between 0 (death) and 1 (perfect health).

Table E3. Results from Decision Analytic Model with a Starting Point of 50%–69% Stenosis

Strategy	REV (%)	Stroke		Life Years*	QALYs*	Costs[†]			ICER[‡]
		Events	Deaths			REV	Stroke	Total	
Medical therapy	11	0.131	0.018	13.025 (10.188)	12.571 (9.891)	1007	8460	11 688	Reference
CVR-based decision making	45	0.105	0.014	13.044 (10.195)	12.670 (9.955)	6223	6470	14 874	50 000
Immediate revascularization	100	0.087	0.012	13.017 (10.171)	12.691 (9.940)	14 366	5842	20 950	Dominated

Note.—REV = revascularizations, Ref = reference.

* Data in parentheses are life years or QALYs discounted at 3%.

[†] Costs are in 2011 U.S. dollars discounted at 3%.

[‡] Data are in dollars per QALY.

Table E4. Sensitivity Analysis Results with 50%–69% Stenosis Starting Point

Variable	Base-Case Value	Medical Therapy Optimal	CVR Strategy Optimal	Immediate Revascularization Optimal	Prespecified Sensitivity Values or Range
Average age (y)	70	>77.5	49.1–77.5	<49.1	60, 80
Men (%)	75	No values exist	All values	No values exist	0, 100
Average annual probability of stroke	0.0113	<0.008	0.008–0.028	>0.028	0.0075–0.0168
Probability of CVR impairment	0.39	No values exist	All values	No values exist	0.20–0.60
Odds ratio of stroke for CVR impairment	3.86	<1.491	>1.491	No values exist	1.99–7.48
Annual probability of stenosis progression	0.052	No values exist	All values	No values exist	0.034–0.070
Rate ratio of stroke for stenosis progression of one category	1.00	No values exist	All values	No values exist	1.00–1.45
Rate ratio of stroke for stenosis progression of two categories	4.03	No values exist	All values	No values exist	1.82–8.93
Rate ratio of stroke for stenosis progression of three categories	7.56	No values exist	All values	No values exist	1.81–31.56
Rate ratio of stroke for 100% carotid artery luminal narrowing	7.74	No values exist	All values	No values exist	2.19–27.44
Annual probability of stenosis regression	0.045	>0.126	<0.126	No values exist	0.024–0.065
Probability of restenosis (from 0%–49% carotid luminal narrowing state)	0.03	>0.100	<0.100	No values exist	0.01–0.04
Relative risk of future stroke after revascularization	0.54	>0.687	<0.687	No values exist	0.43–0.68
Probability of complications during revascularization	0.0197	>0.034	<0.034	No values exist	0.016–0.038
Conditional probability of death given revascularization complication	0.315	No values exist	All values	No values exist	0.1–0.5
Conditional probability of stroke given revascularization complication	0.500	No values exist	All values	No values exist	0.685
Probability of death from stroke (in first year)	0.14	No values exist	All values	No values exist	0.10–0.18
Annual probability of death after stroke or myocardial infarction (after first year)	0.05	No values exist	All values	No values exist	0.048–0.059
Cost*					
Revascularization	14 130	>22 880	850–22 880	<850	10 380–32 880
Stroke in first year	65 820	No values exist	All values	No values exist	13 170–80 450
Stroke in all other years (annual)	2030	No values exist	All values	No values exist	1940–18 960
Myocardial infarction in first year	22 744	No values exist	All values	No values exist	17 860–61 920
Myocardial infarction in all other years (annual)	3244	No values exist	All values	No values exist	2170–10 300
Transcranial Doppler US	344	No values exist	All values	No values exist	200–2500
Quality of life[†]					
Utility value for asymptomatic carotid stenosis	1.0	<0.785	>0.785	No values exist	0.836
Utility value for moderate to severe stroke	0.39	No values exist	All values	No values exist	0.31–0.52
Utility value for mild stroke	0.76	No values exist	All values	No values exist	0.71–0.87
Utility for myocardial infarction	0.84	No values exist	All values	No values exist	0.79–0.88
Utility for revascularization (applied for 2 weeks)	0.77	No values exist	All values	No values exist	1.00

| Proportion of strokes that were moderate to severe | 0.44 | No values exist | All values | No values exist | 0.39–0.49 |

Note.—Cost-effectiveness threshold was $100 000 per QALY.

* All costs are in 2011 U.S. dollars.

[†] Quality of life is represented by utility values between 0 (death) and 1 (perfect health).