Table 1. Summary of findings and GRADE assessment on outcomes of very urgent (<48h) vs. urgent (≥48h) carotid intervention for symptomatic carotid disease

Certainty assessment								No of patients, n (%)		Effect		Certainty	Importance
Outcome	No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Very urgent	Urgent carotid intervention	Relative (95% CI)	Absolute (95% CI)		
Stroke	13	1 RCT and 12 observational studies	Serious[a]	Not serious	Not serious	Not serious	Strong association	50/762 (6.6)	162/4989 (3.2)	OR 2.19 (1.46 − 3.26)	36 more per 1,000 (from 14 more to 66 more)	⊕⊕◯◯ Low	Critical
Death	12	1 RCT and 11 observational studies	Serious[b]	Not serious	Not serious	Serious[c]	None	12/742 (1.6)	59/4844 (1.2)	OR 1.55 (0.81 − 2.96)	7 more per 1,000 (from 2 fewer to 23 more)	⊕◯◯◯ Very low	Critical
TIA	5	1 RCT and 4 observational studies	Serious[d]	Not serious	Not serious	Serious[c]	Publication bias strongly suspected[e]	8/273 (2.9)	17/815 (2.1)	OR 1.33 (0.55 − 3.19)	7 more per 1,000 (from 9 fewer to 43 more)	⊕◯◯◯ Very low	Important
MI	4	Observational studies	Serious[f]	Not serious	Not serious	Serious[c]	Publication bias strongly suspected[e]	4/157 (2.5)	15/755 (2.0)	OR 1.33 (0.41 − 4.33)	6 more per 1,000 (from 12 fewer to 61 more)	⊕◯◯◯ Very low	Important

CI = confidence interval; MI = myocardial infarction; OR = odds ratio; TIA = transient ischaemic attack; RCT = randomised controlled trial.
[a] Mixture of 1 RCT and 12 observational studies. The RCT was judged to be high risk of performance and detection bias (lack of blinding). The methodological quality of 6 of the observational studies was moderate because of lack of comparability of cohorts.
[b] Mixture of 1 RCT and 11 observational studies. The RCT was judged to be high risk of performance and detection bias (lack of blinding). The methodological quality of 6 of the observational studies was moderate because of lack of comparability of cohorts.
[c] Studies included few participants and few events and thus have wide confidence intervals.
[d] Mixture of 1 RCT and 4 observational studies. The RCT was judged to be high risk of performance and detection bias (lack of blinding). The methodological quality of all 4 observational studies was moderate or low because of lack of comparability of cohorts.
[e] A large number of studies included in the review do not contribute to this outcome.
[f] Only observational studies contributed to this outcome, half of which were judged to be of low methodological quality because of lack of comparability of cohorts.

assessment underlines the need for sufficient randomised clinical data before a recommendation can be made as to the safety and relative benefits of very urgent intervention in symptomatic carotid disease.

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Importance of Surgeon Experience in the Relationship Between Abdominal Aortic Aneurysm Surgery Volume and Peri-operative Mortality

Sawang et al.'s finding of a non-significant association between endovascular aneurysm repair (EVAR) volume and peri-operative mortality is in contrast to previous epidemiological studies.[1,2]

This may be explained by surgeon experience. Given the rapid adoption of EVAR and the key developmental contributions that Australia made,[1] the younger generation of surgeons may have undergone more EVAR training and have gained less experience in open repair. It is also of paramount importance to consider the phases of the learning curve/

training which they were at, indicating their degree of experience.[3,4] However, experience does not necessarily correlate with volume derived during the study period, as experienced surgeons do not always perform a high annual procedure volume.[5] Hence, low volume centres that are adequately staffed with EVAR experts may not experience higher mortality as seen in their study. Furthermore, volume counts from emergency repairs should be excluded, as peri-operative outcomes were only assessed for elective procedures.

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Response to 'Re. Importance of Surgeon Experience in the Relationship between Abdominal Aortic Aneurysm Surgery Volume and Peri-operative Mortality'

We thank Wee et al. for their interest in our study and their insightful comments, which we are pleased to address. They make the point that our results contrast with previous epidemiological studies. We agree, and state this in the third paragraph of the 'Discussion', and provide possible explanations for that finding, including the evolution of vascular surgery, training, and implementation of endovascular aneurysm repair (EVAR) in Australia. In the paper, we noted that none of the cited references used Australian data and we question the broader applicability of studies from the UK and US to distant geographical regions.

Wee et al. point out that it may be the experience of a unit's surgical workforce that has a greater influence on peri-operative outcomes after EVAR. While they do not define experience, it is understood that it represents the cumulative caseload volume over a surgeon's entire career, distinct from the "volume" used in our and similar studies, which refers to an annualised aortic caseload. While it is a persuasive surgical concept that total cumulative EVAR volume may be an important factor to influence peri-operative surgical outcomes, we were unable to find evidence to support that statement within the vascular scientific literature. The literature that does exist focuses on learning curves rather than total cumulative experience.[1–6] It is our view that experience is a difficult metric to quantify and may be a less useful one to investigate. While active surgical volume can be measured easily and used as a tool to guide pathways of care, the use of surgical experience for the same purpose comes with numerous challenges, beyond the scope of this reply.

Finally, Wee et al. disagree with our approach to use volume counts derived from both elective and emergency abdominal aortic aneurysm repairs; however, they give no explanation as to why. It is our view that a surgeon gains experience from performing aortic aneurysm repair in both the elective and emergency setting. We therefore used total recent experience as our metric, a methodology consistent with other studies which have investigated the topic.[7–11]

CONFLICTS OF INTEREST

R.L.V. and S.D.T. are consultants for Abbott Vascular; E.L.G.V. is a consultant for Cook, Gore, Siemens, Getinge, and Bentley; H.J.M.V. is a consultant for Medtronic, WL Gore, Endologix, and Arsenal AAA.

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