Transcarotid artery revascularization (TCAR): a technical video

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ABSTRACT

Carotid revascularization is an important method of stroke prevention and includes carotid endarterectomy and transfemoral carotid angioplasty and stenting. More recently, a hybrid open-endovascular approach, termed transcarotid artery revascularization (TCAR), is garnering increased attention. Although fundamentally a ‘stenting procedure’, unlike transfemoral carotid angioplasty and stenting, TCAR allows for a proximal neuroprotection strategy based on flow reversal. In this technical video, we will review operative techniques and nuances of the TCAR procedure, with a particular focus on the neurovascular proceduralist looking to adopt this technique into routine clinical practice (video 1).

Contributors NS wrote the abstract and edited the videos. JA filmed parts of the video and drew illustrative figure. AK and DR filmed the video clips. BJC, AZ, and RH helped with final editing. CM directed the script and carried out the procedure.

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Competing interests BJC is a non-paid consultant for Silk Road Medical. CM receives NIH support from R21NS119992 from the National Institute of Neurological Disorders and Stroke. He serves as site-Pi for the following carotid revascularization trials: TCAR-DWI (Silk Road Medical) and CONFIDENCE (Microvention-Terumo). He is a non-paid consultant for Silk Road Medical.

Patient consent for publication Not required.

Ethics approval This study involves human participants but an Ethics Committee(s) or Institutional Board(s) exempted this study. An informed consent is attached.

Provenance and peer review Not commissioned; externally peer reviewed.

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Video 1 TCAR Technical Video

These maneuvers greatly facilitate identification of the surgical plane