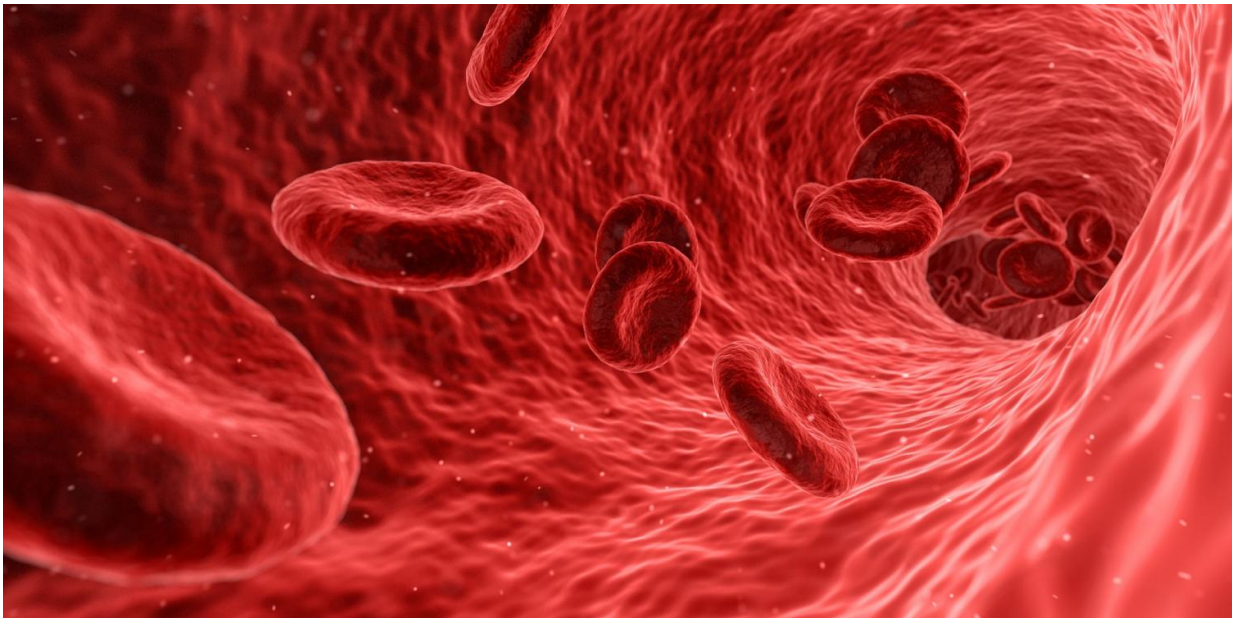


# Exploring optimization of duplex velocity criteria for diagnosis of ICA stenosis

May 27 2021

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Online first in *Vascular Medicine*, researchers from the Intersocietal Accreditation Commission (IAC) Vascular Testing division report findings of their multi-centered study of duplex ultrasound for diagnosis of internal carotid artery (ICA) stenosis.

The study was developed in response to wide variability in the [diagnostic criteria](#) used to classify severity of ICA stenosis across vascular

laboratories nationwide and following a survey of members of IAC-accredited facilities supporting efforts toward standardization. The primary objective of the study was to evaluate widely used SRU Consensus Criteria (SRUCC), and if needed, to propose further optimization to these criteria.

Researchers found that carotid duplex interpretation using SRUCC produced significant overestimation of stenosis for both moderate (50-69%) and severe (> 70%) ICA lesions as determined by catheter angiography. The authors conclude that laboratories currently using SRUCC should consider modification of existing criteria to incorporate more stringent and accurate parameters for ICA stenosis greater than 50% by increasing the peak systolic velocity (PSV) threshold to > 180 cm/sec or requiring the ICA/CCA PSV ratio > 2.0 in addition to PSV of > 125 cm/sec.

"This study reflects more than six years of work of a team of IAC staff and multi-specialty volunteers with case study materials collected from 11 centers nationwide. While the SRUCC are broadly used, they had never been formally compared to the gold-standard of catheter angiography. We have shown that use of SRUCC overestimated degree of ICA stenosis, and [we] identify potential opportunities for modifications that can ultimately enable greater accuracy and consistency in ICA interpretation across vascular laboratories," said lead investigator, Heather L. Gornik, MD, IAC Vascular Testing Immediate Past-President.

"Through its use of real world data from IAC-accredited vascular laboratories, this paper highlights the opportunity to improve the quality of care for patients with carotid disease," said Tatjana Rundek, MD, Ph.D., IAC Vascular Testing President. "By modifying existing criteria to incorporate more accurate parameters and implementing these criteria broadly, the accuracy of diagnostic ultrasound testing can be improved

across our vascular community."

As a next step, IAC Vascular Testing will disseminate a white paper document summarizing the study results and providing guidance to vascular laboratories for implementation of criteria and further steps toward standardization across the vascular testing community. The complete study report can be accessed through open access of *Vascular Medicine*. The authors' affiliations and disclosures of conflicts of interest and a listing of participating study centers are available in the article.

**More information:** Heather L Gornik et al, Optimization of duplex velocity criteria for diagnosis of internal carotid artery (ICA) stenosis: A report of the Intersocietal Accreditation Commission (IAC) Vascular Testing Division Carotid Diagnostic Criteria Committee, *Vascular Medicine* (2021). [DOI: 10.1177/1358863X211011253](https://doi.org/10.1177/1358863X211011253)

Provided by Intersocietal Accreditation Commission

Citation: Exploring optimization of duplex velocity criteria for diagnosis of ICA stenosis (2021, May 27) retrieved 10 December 2023 from <https://medicalxpress.com/news/2021-05-exploring-optimization-duplex-velocity-criteria.html>

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