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News Release

For Immediate Release

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Study Exploring Optimization of Duplex Velocity Criteria for Diagnosis of Internal Carotid Artery (ICA) Stenosis Published Online Today

MAY 19, 2021 | Online first today 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.¹

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.² The primary objective of the study was to evaluate widely used SRU Consensus Criteria (SRUCC) and, if needed,³ to propose further optimization to these criteria.³

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 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, PhD, 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* at <https://journals.sagepub.com/doi/full/10.1177/1358863X211011253>. The authors’ affiliations and disclosures of conflicts of interest and a listing of participating study centers are available in the article.

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References

- ¹ 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. Gornik HL, Rundek T, Gardener H, et al. *Vascular Medicine*, 2021; <https://journals.sagepub.com/doi/full/10.1177/1358863X211011253>
- ² Intersocietal Accreditation Commission Vascular Testing White Paper on Carotid Stenosis Interpretation Criteria. 2014. www.intersocietal.org/vascular/forms/iaccarotidcriteriawhitepaper1-2014.pdf
- ³ Carotid Artery Stenosis: Gray-scale and Doppler US Diagnosis--Society of Radiologists in Ultrasound Consensus Conference. Grant EG, Benson CB, Moneta GL, et al. *Radiology*, 2003;229:340-6.

About IAC

The IAC is a nonprofit organization in operation to evaluate and accredit facilities that provide diagnostic imaging and intervention-based procedures, thus improving the quality of patient care provided in private offices, clinics and hospitals where such services are performed. The IAC provides accreditation programs for vascular testing, echocardiography, nuclear/PET, MRI, diagnostic CT, dental CT, carotid stenting, vein treatment and management, cardiac electrophysiology and cardiovascular catheterization. The IAC programs for accreditation are dedicated to ensuring quality patient care and promoting health care and all support one common mission: *Improving health care through accreditation*®. Committed to its mission through a rigorous peer review process, the IAC has granted accreditation to more than 14,000 sites since its inception in 1991. To learn more about IAC, visit intersocietal.org.

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