Original Research Article

Journal for Vascular Ultrasound
2025, Vol. 49(3) 123–127

DOI: 10.1177/15443167251376345
journals.sagepub.com/home/jvu
Sage

Factors Affecting Accreditation in Extracranial Carotid Ultrasound Studies by the Intersocietal Accreditation Commission

Joseph Polak, MD[1†], Nirvikar Dahiya, MD[2], Michael Go, MD[3], Esther Kim, MD[4], Sanjoy Kundu, MD[5], Sandra Yesenko, DHSc[6], and Marge Hutchisson, BS[7]

Abstract

Introduction: Accreditation of vascular laboratories has been shown to lead to overall improvements in quality patient care. However, there are still factors that needlessly delay the granting of full accreditation. We performed a retrospective analysis looking at factors associated with delays in accreditation in extracranial carotid artery ultrasound examinations by the Intersocietal Accreditation Commission - Vascular Testing (IAC-VT) division.

Materials and Methods: We accessed an active database from the IAC-VT division between 2014 and 2020 and extracted data linked to vascular laboratory accreditation in extracranial carotid ultrasound studies. We used the 'Delay" versus the "Grant" status as outcome and looked at the association with 18 metrics that are part of the application evaluation. We further used a modified Delphi method to determine the relative role played by either the technologist/sonographer or the interpreting physician for each metric. Statistical significance was evaluated by Chi-square.

Results: A "Delay" status was assigned in 1638 (58.6%) out of 2794. Ten factors were noted to be significant univariate predictors of a "Delay" status. The three major factors were solely associated with the interpreting physician while adherence to technical factors showed mostly shared responsibility.

Conclusion: This retrospective study indicated that the accreditation process is strongly dependent on interpreting physician performance. Targeted interventions may help decrease time and effort associated with the costs of the accreditation process.

Keywords

criteria, accreditation, extracranial carotid, ultrasound

Introduction

The Intersocietal Accreditation Commission-Vascular Testing (IAC-VT) and its predecessor organization, the Intersocietal Commission for the Accreditation of Vascular Laboratories (ICAVL), have offered a pathway to vascular laboratory accreditation since the early 1990s. This process ensures the maintenance of standards for delivering high-quality noninvasive vascular evaluations to patients seen in accredited laboratories. One area of interest, the delivery of extracranial carotid artery evaluations with ultrasound, has shown a high penetration of medical services delivered by the Centers for Medicare and Medicaid Services (CMS) in the United States.[1]

In addition to basic standards in ensuring administrative reliability of the laboratory, the process of accreditation for extracranial studies includes the submission of abnormal carotid examinations by the laboratory. The administrative reliability of the laboratory deals mainly with physician and technologist credentials as well as physical infrastructure. These are not directly assessed in this article. Instead, we focus on issues dealing with the acquisition and interpretation of the imaging materials submitted to IAC-VT. The submitted applications are reviewed for compliance with established quality standards and a status of either "Grant" or "Delay" is typically

[1]Tufts Medical Center, Boston, MA, USA
[2]Mayo Clinic Arizona, Phoenix, AZ, USA
[3]The Ohio State University, Columbus, OH, USA
[4]Atrium Health, Charlotte, NC, USA
[5]Scarborough Health Network, ON, Canada
[6]Cleveland Clinic, OH, USA
[7]Intersocietal Accreditation Commission, Ellicott City, MD, USA
[†]Joseph Polak, MDCM, MPH, FACR, FAIUM, died 7/15/2023 before this paper was finalized.

Corresponding Author:
Sandra Yesenko, Non-Invasive Vascular Laboratory, Cleveland Clinic, 9500 Euclid Avenue Desk J3-5, Cleveland, OH 44195, USA.
Email: yesenks@ccf.org

Table 1. List of key parameters used during the accreditation review process.

Parameter being evaluated	Explanation
Abnormal Study	Is the submitted case study abnormal?
Clinical Indication	Is there an appropriate clinical indication for the examination?
Cursor Alignment Parallel	Is the cursor alignment parallel with respect to the vessel wall or flow?
Cursor Angles Less 60 Degrees	Are all the cursor angles less than or equal to 60°?
Exam Date	Date of examination indicated?
Final Report Adhere Diagnostic Criteria	Does the interpretation adhere to the diagnostic criteria?
Interpretation Accurate	Does the interpretation appear to be accurate?
Long Axis Gray Scale Provided	Are all the required long axis gray scale images provided?
Medical Staff Interpreting Exam	Is the examination interpreted by a member of the medical staff listed on the application?
Patient ID	Is patient identification complete?
Physician Interpretation Time	Is the physician interpretation available within 2 business days?
Physician Sign Verify Date	Date of transcription/physician signature is listed?
Physician Sign Verify	Physician signature or electronic verification is on the report?
Pos/Neg Findings	Pertinent positive and negative findings are listed?
Required Spectral Doppler Wave Images	Are all the required spectral Doppler waveform images documented?
Spectral Doppler Waveforms	Are the spectral Doppler waveforms of diagnostic quality?
Impression	A summary/impression is included?
Technologist Performing Exam	Is the examination performed by a technologist listed on the application?

determined. The IAC-VT accredits a high volume of laboratories that perform extracranial carotid evaluations. However, many laboratories applying for accreditation are initially assigned a "Delay" status. A high volume of "Delay" status applications is labor and resource intensive for the applicant laboratories and IAC-VT reviewers since the laboratory must correct the deficiencies and submit new materials that then have to be reviewed by IAC-VT staff. The "Delay" status may also result in reimbursement or institutional recognition problems for applicant laboratories. The IAC-VT views this situation as an opportunity to analyze the principal causes of a "Delay" status with the goals of partnering with applicant laboratories to decrease unnecessary delays and improve overall study quality.

The factors associated with accreditation status have been poorly studied. It is clear, however, that the process of acquiring and interpreting vascular studies is 2-fold: a technologist/sonographer acquires the imaging data that are then made available to an interpreting physician. Potential flaws at either stage of the process may indicate that study quality is not up to expected standards. In addition, it is not clear if the potential deficits lie with either the technologist/sonographer or the interpreting physician. While assigning this responsibility might seem intuitively obvious, a rigorous approach may be required to clarify this issue since a priori biases are likely present.

We studied key parameters that are associated with accreditation status in extracranial carotid studies by IAC-VT following review of laboratory applications. We also attempted to distinguish the relative contribution of technologists/sonographers and interpreting physicians using a Delphi method to diminish potential biases. Identifying parameters associated with a "Delay" status, and further understanding the relative contributions and responsibilities of technologists/sonographers and interpreting physicians will provide IAC-VT and applicant laboratories actionable interventions to minimize "Delay" status assignments and improve the quality of studies.

Materials and Methods

The IAC-VT maintains an ACCESS (Microsoft Corporation, Redmond, Washington) database of laboratories seeking accreditation that includes type of laboratory, single site or multiple sites, accreditation decision, and a set of key parameters that, prior to 2014, had been shown to influence the decision to grant accreditation. These were slightly modified in 2014 and the current key parameters are listed in Table 1.

We queried the IAC-VT database for records dated between 2014 and 2020, extracting these data fields, and transferring them to Excel (Microsoft Corporation, Redmond, WA). These were subsequently transferred to JMP (SAS Corporation, Cary, North Carolina) for statistical analyses.

A committee of 5 members from the IAC-VT Board of Directors reviewed these results and also sought to determine the relative role that the technologist/sonographer and interpreting physician played in adherence to each of the parameters listed in Table 1 (Figure 1). Given the existence of parameters that inherently could influence the decision making of a group, we used a modified Delphi method to minimize the influence of dominant individuals, the likelihood that topic discussion might diverge from the issue at hand, and the effect of group pressure for compromise without sufficient discussion.[2,3] Step 1 of the review process was blinded since the committee members were not aware of other committee members' opinions when they reviewed the questions in Table 1 and scored them on a 9-level Likert scale. The scale

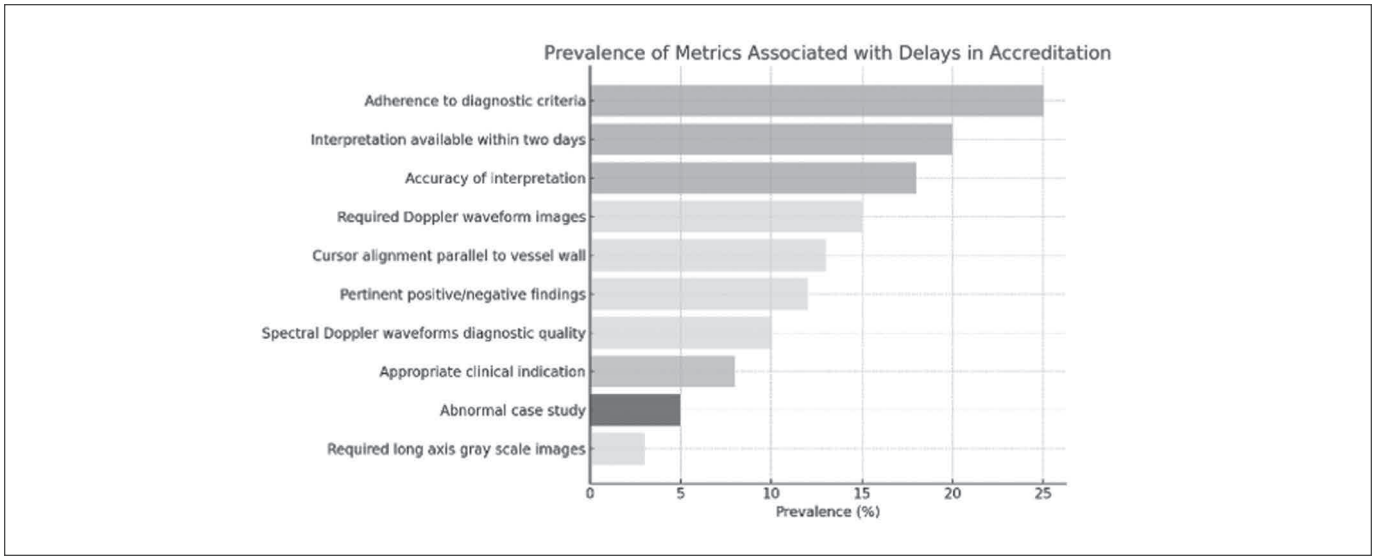

Figure 1. A color-coded table representing the likely source of delay.
Blue represents the interpreting physician. Yellow represents both the interpreting physician and technologist/sonographer. Pink represents the technologist/sonographer. Green represents neither the interpreting physician nor technologist/sonographer.

Table 2. Significant factors associated with delayed accreditation in extracranial carotid artery ultrasound studies and their likely sources.

	Association with Delay accreditation decision	Likely source of Delay decision	
Metric	Prevalence[a]	Interpreting physician	Technologist/ sonographer
Does the interpretation adhere to the diagnostic criteria?	27.0 %	Yes	No
Is the physician interpretation available within 2 business days?	12.0%	Yes	No
Does the interpretation appear to be accurate?	11.0%	Yes	No
Are all the required spectral Doppler waveform images documented?	9.2%	Yes	Yes
Is the cursor alignment parallel with respect to the vessel wall or flow?	6.0%	Yes	Yes
Are pertinent positive and negative findings documented?	5.6%	Yes	Yes
Are the spectral Doppler waveforms of diagnostic quality?	5.0%	Yes	Yes
Is there an appropriate clinical indication for examination?	4.2%	No	Yes
Is the case study abnormal?	3.4%	No	No
Are all the required long axis gray scale images provided?	2.7%	Yes	Yes

[a]As percent of 1636 delayed applications out of 2794 applications.

extended from *very unlikely* (1) to *very likely* (9) to be the responsibility of either the technologist/sonographer or the interpreting physician, with 5 being neutral. Consensus was reached when 4 of the 5 members scored the question within 3 levels of each other. A second round was then undertaken, this time revealing the questions where consensus had been reached but also showing the distribution of response from questions where consensus had not been reached. The Board members were blinded to the identities of the individuals giving their opinions. A final conference call was held to address the remaining questions where consensus had not been reached.

Categorical variables are presented as percentages. Chi-square was used to assess the significance of plausible association of specific criteria with the outcome, accreditation granted or delayed. The level of statistical significance was set at $P = .05$.

Results

From 2014 to early 2020, there were 1638 (58.6%) delayed decisions out of 2794 reviewed extracranial carotid artery applications. Most applications were from single site laboratories (1892; 67.4%). The remaining applications represented

laboratories with 2 sites (453; 16.1%), 3 sites (191; 6.8%), or 4 sites (106; 3.8%) or 5 sites or more (5.9%).

Table 2 shows the 10 most important parameters associated with a "Delay" in the accreditation process which were statistically significant. The most common omission was lack of adherence to laboratory defined diagnostic criteria (27%), followed by absence of a final interpretation within 2 business days (12%), and apparent lack of accuracy in the final interpretation (11%). Figure 1 illustrates the prevalence of specific metrics associated with delays in accreditation, categorized by the source of responsibility. The color-coded data indicate that delays in accreditation are most commonly associated with the interpreting physician (blue), followed by shared responsibility between the interpreting physician and technologist/sonographer (yellow). Fewer delays are attributed solely to the technologist/sonographer (pink), and the least are due to factors unrelated to either group (green).

Of the 18 questions evaluated, consensus was, respectively, reached in 12/18 accreditation criteria for technologists/sonographers and 9/18 for the interpreting physicians in the first Delphi round. A second round led to additional consensus in 4 instances each for the technologists/sonographers and the interpreting physicians. Full consensus was reached for the remaining 7 questions, 2 for technologists/sonographers and 5 for the interpreting physicians after the final round. Results of the Delphi evaluations are incorporated into Table 2 and show the likely source of delays in accreditation. The top 3 sources for delays are physician linked. The role of the interpreting physician was also thought to contribute to technical issues such as Doppler cursor alignment. Neither the technologist/sonographer nor the interpreting physician were thought to be responsible for selection of the cases submitted for review while the technologist/sonographer was likely responsible for the absence of an appropriate study clinical indication.

Discussion

We have identified sources for delays in accreditation in extracranial carotid studies by the IAC-VT. Issues related to final interpretations were dominant and, by consensus, seemed mostly associated with the interpreting physicians. Technical factors in image acquisition also played a role, albeit a less prominent one. Even for these factors, the consensus evaluation suggested a shared responsibility between technologists/sonographers and interpreting physicians.

This survey reflects the materials submitted by a given laboratory and cannot give any insight into the roles played by the administrative processes of selecting the materials to be submitted with the accreditation application. These processes encompass the gathering of case studies, their selection, and an evaluation of their suitability. We cannot comment on the role of these processes on delays, as our study only looked at materials submitted by laboratories, after this process occurred. However, it is plausible that materials better suited for submission were passed over and lower quality materials submitted.

The insight we glean from our study is the often ignored role played by the interpreting physician during the accreditation process. We started our evaluation looking at likely technical parameters that were linked to the studies being submitted believing that these were the plausible sources of deficiencies that needed to be corrected before accreditation could be granted. Realizing that the issue might be more complicated, we decided to evaluate the relative role played by technologists/sonographers and interpreting physicians. Since we realized, a priori, that the issue was complicated and susceptible to strong biases, we opted to evaluate the different aspects of the accreditation criteria with the aid of a modified Delphi method.[2] The original Delphi approach was introduced as a method that could account for biases engendered by individuals when group decisions were being discussed and acted upon.[3] The Delphi method was introduced by the Rand Corporation in the 1950s and declassified in the 1960s as a technique offering clear advantages when it came to making decisions and reaching group consensus.[3,4] Adoption of this methodology tends to minimize the influence of dominant individuals, the likelihood that topic discussion might diverge from the issue at hand and decrease the effect of group pressure for compromise without sufficient discussion. Because of our approach, we believe that our findings are very likely to give an accurate and fair appraisal of the reasons for delays in accreditation.

The value of the accreditation process is increasingly recognized in different divisions within the IAC. When possible, objective measures are used to show the benefits of accreditation. For example, decreases in radiation exposure are easily quantifiable and therefore give straight forward results.[5-7] Given that ultrasound imaging is highly operator dependent, any evaluation of the final end product of the medical imaging process has added complexity. Passive surveys can give indications of possible increases in the overall quality of laboratory services but lack the ability to focus on more granular aspects.[1,8]

Our study is limited. It looks at a restricted number of parameters associated with the accreditation process and is further limited to a specific subspecialty that uses ultrasound and is therefore very operator dependent. In addition, there is likely a temporal bias linked to the interval over which the data were acquired since, in some cases, staff, imaging protocols, and ultrasound devices might have changed. It is also limited since certain administrative aspects of the submission process are not reviewed: for instance, we cannot ascertain if the submitted studies have undergone a rigid peer review before submission nor can we identify what individuals were responsible for this task.

Our study has some strengths. It uses a standard approach to evaluate the potential sources of delays in granting accreditation by focusing on the separate roles played by technologists/sonographers and interpreting physicians. It does so by

relying on the modified Delphi method to minimize ascertainment biases. We have found that the physician role is a dominant one in the accreditation process. Communicating this finding to accredited laboratories should help IAC-VT decrease the "Delay" rates and decrease the monetary and labor associated costs of the accreditation process. While being vigilant of technical issues linked to technologists/sonographers, applicant laboratories should pay more attention to the role played by the interpreting physician. Similar issues have been noted in other aspects of ultrasound imaging[9] with the ultimate realization that targeting interventions can help overall laboratory quality and possibly financial performance.[10] We also believe that the approach described in this article can be applied to other areas of ultrasound testing and help improve quality and facilitate the accreditation process. Our approach may also be applicable to other areas of diagnostic testing that are reliant on both technical skills for image acquisition and timely interpretation of often complex image datasets.

Based on our results, laboratory technical and medical directors should, in their ongoing quality improvement processes, pay special attention to the specific parameters we identified as most commonly associated with delays (Figure 1). Specifically, emphasizing to interpreting staff their role in providing timely interpretations that are accurate and adhere to local diagnostic criteria, as well as periodic internal auditing and education, will have a significant impact on an individual laboratory's application status, and quality of studies in general. Our findings also suggest that a regular feedback loop between the interpreting physician and the technologists/sonographers could help eliminate technical issues like adherence to appropriate Doppler angles during acquisition of images. While not addressed by our data, it is intuitive that the administrative process of selecting case studies for submission is a task that should be performed or directly supervised by both the technical and medical directors, perhaps independently, to avoid needless delay.

Conclusion

We conclude that delays in the accreditation of laboratories in extracranial carotid studies by the IAC-VT are due to multiple factors. A key component of the process is the participation of the interpreting physician in the timely and accurate reporting of the examination findings. Interventions targeted at specific factors such as adherence to diagnostic criteria, report availability, and providing all required Doppler waveform images may help reduce delays in accreditation and improve performance.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

ORCID iDs

Joseph Polak https://orcid.org/0000-0002-2459-083X
Sandra Yesenko https://orcid.org/0009-0001-9738-9627

References

1. Brown SC, Wang K, Dong C, et al. Intersocietal Accreditation Commission accreditation status of outpatient cerebrovascular testing facilities among Medicare beneficiaries: the value study. *J Ultrasound Med*. 2016;35(9):1957-1965.
2. Eubank BH, Mohtadi NG, Lafave MR, et al. Using the modified Delphi method to establish clinical consensus for the diagnosis and treatment of patients with rotator cuff pathology. *BMC Med Res Methodol*. 2016;16:56.
3. Dalkey N, Helmer O. An experimental application of the Delphi method to the use of experts. Memorandum RM-727/1- Abridged the Rand Corporation Santa Monica, CA; 1962.
4. Dalkey NC, Brown BB, Cochran S. *The Delphi Method: An Experimental Study of Group Opinion*. Santa Monica, CA: Rand Corporation; 1969.
5. Jerome SD, Tilkemeier PL, Farrell MB, Shaw LJ. Nationwide laboratory adherence to myocardial perfusion imaging radiation dose reduction practices: a report from the Intersocietal Accreditation Commission data repository. *JACC Cardiovasc Imaging*. 2015;8(10):1170-1176.
6. Farrell MB, Lally M, Merrill N, Pizzutiello R, Setzen G, Choi JY. Effect of facility IAC-Accreditation on CT dose awareness and reduction. *Radiol Technol*. 2017;88(5):472-480.
7. Desiderio MC, Lundbye JB, Baker WL, Farrell MB, Jerome SD, Heller GV. Current status of patient radiation exposure of cardiac positron emission tomography and single-photon emission computed tomographic myocardial perfusion imaging. *Circ Cardiovasc Imaging*. 2018;11(12):e007565.
8. Brown SC, Wang K, Dong C, et al. Accreditation status and geographic location of outpatient echocardiographic testing facilities among Medicare beneficiaries: the value-echo study. *J Ultrasound Med*. 2018;37(2):397-402.
9. Duszak R Jr, Nossal M, Schofield L, Picus D. Physician documentation deficiencies in abdominal ultrasound reports: frequency, characteristics, and financial impact. *J Am Coll Radiol*. 2012;9(6):403-408.
10. Maddux PT, Farrell MB, Ewing JA, Tilkemeier PL. Improving compliance with Intersocietal Accreditation Commission (IAC) reporting standards: a serial comparison of 523 labs over seven years. *J Nucl Cardiol*. 2018;25(6):2044-2052.

Journal for Vascular Ultrasound
2025, Vol. 49(3) 128

DOI: 10.1177/15443167251382405
journals.sagepub.com/home/jvu
Sage

Ultrasound: An Operator-Dependent Modality

That statement, which may be considered dismissive or even derogatory, seems to say it all. Ultrasound is a sonographer-dependent modality, and the quality of a sonographer's work is dependent upon the training, dedication, experience, and ongoing learning and professional growth of the sonographer. Sonographers study, refine, and perfect their skills over many years because patients and practitioners depend on their work. Beyond this, sonography is unique among imaging specialties in that it is the only one in which the technologist is in direct, physical, and interpersonal contact with the patient during the examination. This professional but also personal and meaningful interaction between a patient and sonographer draws on communication skills, maturity, and empathy not required in other imaging fields. It is no mean feat to support, comfort, and reassure while at the same time performing a complex often demanding examination obtaining critical images and data to understand potentially life- or limb-threatening conditions. This combination of "operator-dependence" and more intimate interaction with patients puts a significant responsibility or burden on the sonographer. Sonographers, and in particular, vascular sonographers, take these responsibilities seriously and take pride in the ability to manage these interactions with patients even under difficult or unpleasant circumstances. These are the qualities that define the sonographer. Students are drawn to sonography because of these demands and the personal and professional rewards of meeting these challenges. There is no question that ultrasound is an operator-dependent modality, and sonographers step up and welcome the responsibility that this entails.

The article by Polak et al. in this issue highlights an often overlooked fact that quality and performance of the vascular diagnostic unit are not solely "operator-dependent" but rather dependent on every step in the process of delivering a timely and accurate diagnosis to the patient's provider. Just as it is impossible for a vascular laboratory to function with-out skilled and experienced sonographers, the outstanding work of the sonographer can be undermined by administra-tive and interpretive shortcomings. A prompt, comprehen-sive vascular ultrasound examination with first-class images has no value if its results are not available in a timely way or if the interpretation is misleading, incomplete, or erroneous. These concerns are the rationale for programs of accreditation of diagnostic facilities that include comprehensive standards addressing equipment, personnel, supervision, protocols, interpretation, and quality assurance, as well as periodic objective, third-party assessment of compliance and performance.

The source of data for the author's manuscript was case stud-ies (images and interpretations) submitted as part of applications for accreditation or reaccreditation through the Intersocietal Accreditation Commission-Vascular Testing Division (IAC-VT) by facilities interested in developing, improving, or demonstrat-ing their quality performance. Facilities are instructed to submit cases representative of the best work of the laboratory. When submitted cases had significant deficiencies, granting of accred-itation was delayed, pending review and/or correction. The author's review of the causes for delay of accreditation deci-sions demonstrated that the most common issues with labora-tory performance involve administrative aspects and physician interpretation. It is clear from the data that quality in the vascu-lar laboratory, while dependent upon sonographer excellence, is also the product of organizational efficiency and medical staff engagement and experience. Many vascular diagnostic units suffer from difficulties in finding, developing, and retaining skilled and experienced sonographers. The data in this paper indicate that at least as many facilities fall short of quality not due to sonographer issues but to organizational, supervisory, and medical deficiencies. Superb vascular specialists and out-standing vascular sonographers fail their patients and their referring providers when there is insufficient focus on each aspect of laboratory performance and a lack of regular assess-ment of overall laboratory performance. Accreditation programs such as IAC-VT provide the standards, the framework, and the tools for any vascular laboratory to be a high-performing facil-ity, but this is not enough. Consistent engagement, encouragement, education, and review are essential for the diagnostic vascular laboratory to provide real value for patients. Commitment to these aspects of laboratory management is all too often ignored, downplayed, or under resourced. Otherwise excellent vascular diagnostic units fail patients because of lack of attention, disregard, or ignorance of these issues by laboratory leadership, practice managers, medical directors, and hos-pital administrators.

Yes, ultrasound is an "operator-dependent" modality, but in the vascular laboratory, sonographers are not the only "operators." Vascular lab performance and quality are dependent on everyone.

Michael, P Lilly, MD
Professor of Surgery
University of Maryland School of Medicine
Chief, Department of Surgery
University of Maryland Medical Center Midtown Campus
Baltimore, Maryland

Journal for Vascular Ultrasound
2025, Vol. 49(3) 129

DOI: 10.1177/15443167251382406
journals.sagepub.com/home/jvu
Sage

Commentary on: Factors Affecting Accreditation in Extracranial Carotid Ultrasound Studies by the Intersocietal Accreditation Commission

In 1989, leaders in the field of noninvasive vascular testing from various medical, surgical, and imaging disciplines met to discuss growing concerns over the inappropriate use of vascular testing and the lack of standards for performing and interpreting the examinations. Following that meeting, the Intersocietal Commission for the Accreditation of Vascular Laboratories (ICAVL) was incorporated to provide a process for recognizing high-quality vascular diagnostic testing by adherence to a set of rigorous Standards and Guidelines. In 1991, 15 laboratories completed a pilot accreditation program, and 36 laboratories received formal ICAVL accreditation in 1992. Based on the success of the ICAVL, accrediting programs in other imaging modalities followed, including echocardiography (1996), nuclear/positron emission tomography (1997), magnetic resonance imaging (2000), and computed tomography (2007). In 2008, a "parent" company, the Intersocietal Accreditation Commission was formed, and the ICAVL became IAC-Vascular Testing.

Although the IAC-Vascular Testing Standards and Guidelines are designed to be applicable to all vascular laboratories regardless of size, clinical setting, or the medical specialties of the interpreting physicians, they are extremely comprehensive and detailed, and it is unusual for a laboratory to receive a "Grant" decision in a testing area on the initial application. A more com-mon outcome is a "Delay" decision that is intended to give the laboratory time to respond to questions, correct deficiencies, and submit new materials. The paper in this issue of the *Journal for Vascular Ultrasound* by Polak and co-authors titled *Factors Affecting Accreditation in Extracranial Carotid Ultrasound Studies by the Intersocietal Accreditation Commission* provides some interesting and useful information that can help vascular laboratories understand the accreditation process and possibly avoid some of the deficiencies that result in Delay decision.

The authors reviewed the parameters used in the accreditation review process for extracranial carotid artery testing, and specifically those factors associated with the acquisition and interpretation of images for the abnormal case studies submit-ted. Extracranial Cerebrovascular is the most common testing area in applications for IAC-Vascular Testing accreditation (although Peripheral Venous is a close second), so the findings will be relevant to most vascular laboratories. Among the 2794 applications reviewed, 1638 (almost 60%) received a Delay decision for extracranial carotid artery testing. A unique feature of this paper is that the analysis was designed to distinguish between technologist factors and interpreting physician factors resulting in a Delay decision.

Among the 10 most significant factors associated with a Delay decision, the key finding was that the 3 most prevalent factors were attributed to the interpreting physician (adherence to diagnostic criteria, interpretation availability, and interpretation accuracy), and the next 4 factors were considered to be the responsibility of both the technologist and interpreting physician. Only 1 factor (appropriate clinical indication) was considered to be the sole responsibility of the technologist. While some readers might wonder why factors such as Doppler cursor alignment and spectral waveform quality were not attributed to the technologist alone, the message is clear: The interpreting physician plays a major role in the overall quality of extracranial carotid artery testing and in receiving a Delay decision for IAC-Vascular Testing accreditation.

Of course, the interpreting physician is ultimately responsible for whatever appears in a final vascular laboratory report. In most vascular laboratories, technologists prepare preliminary reports, and there is considerable variability in how interpreting physicians review and finalize those reports. This paper suggests that increased involvement of interpreting physicians in the imaging and reporting process could minimize delays in IAC-Vascular Testing accreditation and the administrative burden that creates.

Finally, I want to acknowledge the many outstanding contributions of Dr Joseph Polak, this paper's first author, to the field of diagnostic vascular imaging and the study of vascular disease. Dr Polak died on July 15, 2023, so this paper is one of his last publications. Throughout his career, Dr Polak was highly regarded as a researcher, clinician, author, and teacher. He was also a strong supporter of the *Society for Vascular Ultrasound* and a frequent contributor to the *Journal for Vascular Ultrasound*. Dr Polak and I are both Past-Presidents of the ICAVL, and I had the privilege of collaborating with him on a number of committees and educational programs. His insight, enthusiasm, and love of life will be missed.

R. Eugene Zierler, MD, RPVI
Medical Director, D. E. Strandness, Jr. Vascular Laboratory,
University of Washington Medical Center and Harborview
Medical Center, Seattle, WA, USA