# 19th Annual Transcranial Doppler Course

*Learn TCD Interpretation with 100 Patient Studies*

September 5-7, 2025

Live online, hosted from Seattle, USA (Time Zone PDT, GMT-7)

## Learning Objectives

- Identify basic principles of intracranial vascular anatomy, physiology, and pathophysiology
- Describe clinical applications of TCD
- Recognize normal and abnormal intracranial Doppler spectral waveforms
- Apply TCD and TCDI interpretation to 100 real patient case studies in a variety of clinical settings

## Prerequisite Fundamental Lectures

Pre-recorded, online only. Available for viewing prior to start of course.
NOTE: *TCD course attendees are expected* to be familiar with or have viewed these lectures *prior to starting the course.*

Lectures:

1. Cerebrovascular Anatomy: Decoding the Matrix
   Aaron Stayman MD, RPNI
   Emily L. Ho MD PhD, RPNI
2. Foundations of Success with TCD: Physics and Instrumentation
   Leni Karr CPC, ELI-MP, RVT, NVS
3. TCD: Non-imaging Technique
   Brenda Rinsky, RVT, RDMS, NVS
4. TCD: Imaging Technique
   Krislynn Barnhart, BS, RVT, NVS

5. Subclavian Steal
   Bonnie Brown, RVT, NVS
6. Extrinsic Compression of Vertebral Arteries with Head Rotation
   Bonnie Brown, RVT, NVS
7. Building a Neurovascular Lab
   Brenda Rinsky, RVT, RDMS, NVS
8. Self-Quiz for Cerebrovascular Anatomy and Physics
   Aaron Stayman MD, RPNI
   Emily L. Ho MD PhD, RPNI
   Leni Karr CPC, ELI-MP, RVT, NVS

## Pre-Course Meet & Greet – Tuesday, September 2

Live online at 1700 PDT (GMT-7) using the 24-hour clock / military time.

1700 Come online and meet some of the TCD course faculty and help us build a community of TCD enthusiasts!

Update September 3, 2025: We have recorded this event for viewing by those who cannot attend. Please check your email for details.

## Day 1 – Friday, September 5

Pre-recorded and live webinar. All times listed are Pacific Daylight Savings Time (GMT-7) using the 24-hour clock / military time.

0730 Zoom waiting room will open

0745 Welcome and Introduction
Aaron Stayman MD, RPNI
Emily L. Ho MD, PhD, RPNI

0800 Hemodynamics and Waveform Interpretation
Krislynn Barnhart, BS, RVT, NVS
Leni Karr CPC, ELI-MP, RVT, NVS

0900 Extracranial Arterial Effects on Intracranial Hemodynamics: Collateral Flow

Emily L. Ho MD, PhD, RPNI

0945 –Break–

1000 Cerebral Emboli
Krislynn Barnhart, BS, RVT, NVS

1045 Clinical Application of TCD Emboli Monitoring
Aaron Stayman MD, RPNI

1130 –Lunch break–

1230 Intracranial Stenosis and Occlusion
Aaron Stayman MD, RPNI

1315 Endovascular Carotid Revascularization
Yince Loh MD

1335 TCD Case Studies in Carotid Revascularization
Aaron Stayman MD, RPNI

1405 –Break–

1420 Patient case studies with TCD interpretation of above topics
Aaron Stayman MD, RPNI
Emily L. Ho MD, PhD, RPNI

1730 Adjourn

## Day 2 – Saturday, September 6

Pre-recorded and live webinar. All times listed are Pacific Daylight Savings Time (GMT-7) using the 24-hour clock / military time.

0730 Zoom waiting room will open

0745 Announcements
Aaron Stayman MD, RPNI
Emily L. Ho MD, PhD, RPNI

0800 TCD Bubble Study for PFO: Protocol & Interpretation Criteria
Ahmad Siyar RVT, NVS

0830 PFO: Anatomy, Pathology, Diagnosis & Treatment
Paul P. Huang, MD, RPVI, MSC, FACC, FSCAI

0915 Patient case studies with TCD interpretation of above topics
Aaron Stayman MD, RPNI
Emily L. Ho MD, PhD, RPNI

1000 –Break–

1015 Extracranial Arterial Effects on Intracranial Hemodynamics: Vasomotor Reserve
Emily L. Ho MD, PhD, RPNI

1100 Subarachnoid Hemorrhage and Vasospasm
James Wang MD, RPNI

1140 –Lunch break–

1245 TCD in Traumatic Vasospasm
Alan J. Velander II, MD RPNI

1310 Patient case studies with TCD interpretation of Traumatic Vasospasm
Alan J. Velander II, MD RPNI

1345 Patient case studies with TCD interpretation of above topics
Aaron Stayman MD, RPNI
Emily L. Ho MD, PhD, RPNI

1730 Adjourn

## Day 3 – Sunday, September 7

Pre-recorded and live webinar. All times listed are Pacific Daylight Savings Time (GMT-7) using the 24-hour clock / military time.

0730 Zoom waiting room will open

0745 Announcements
Aaron Stayman MD, RPNI
Emily L. Ho MD, PhD, RPNI

| | |
|---|---|
| 0800 | TCD in Raised Intracranial Pressure and Cerebral Circulatory Arrest<br>Arthur Lam, MD, FRCP, FNCS |
| 0830 | Patient case studies with TCD interpretation of above topics<br>Aaron Stayman MD, RPNI<br>Emily L. Ho MD, PhD, RPNI |
| 0915 | –Break– |
| 0930 | Sickle Cell Disease<br>Michael Bender, MD, PhD |
| 1015 | STOP Trial and TCD Criteria<br>Brenda Rinsky, RVT, RDMS, NVS |
| 1030 | Patient case studies with TCD interpretation of above topics<br>Question and Answer Session<br>Aaron Stayman MD, RPNI<br>Emily L. Ho MD, PhD, RPNI<br>Other faculty members |
| 1215 | –End of course– |

All live online sessions (Days 1-3) will be recorded and made available to course attendees after the end of the course.

## Faculty Members

Krislynn Barnhart, RVT, NVS
Philips Healthcare

Michael Bender, MD, PhD
Seattle Children's Hospital
F. Hutchison Cancer Research Center

Bonnie Brown, RVT, NVS
Pacific Vascular, Inc.

Emily L. Ho, MD, PhD
Swedish Medical Center
University of Washington

Paul Huang MD, MSC, FACC, FSCAI
Swedish Medical Center

Leni N. Karr, RVT, NVS , CPC ELI-MP
Leading Edge Insight, Inc.

Arthur Lam MD, FRCP, FNCS
Swedish Medical Center
UC San Diego

Yince Loh, MD
Swedish Medical Center

Brenda Rinsky, RVT, RDMS, NVS
Independent Contractor

Ahmad Siyar, RVT, NVS
Swedish Medical Center

Jill Sommerset RVT, FSVU
HOPE Vascular and Podiatry
Advanced Vascular Centers
Washington State University

Aaron Stayman, MD, RPNI
Swedish Medical Center

Alan Velander, MD, RPNI
Louisiana State University
Health Sciences Center

James Wang, MD, RPNI
Swedish Medical Center

## Course Planning Committee

Aaron N. Stayman MD, RPNI
Emily L. Ho MD, PhD, RPNI
Leni Karr RVT, NVS, CPC, ELI-MP
Jill Sommerset RVT, FSVU

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the Washington State University (WSU) Elson S. Floyd College of Medicine and TCD Education. The WSU Elson S. Floyd College of Medicine is accredited by the ACCME to provide continuing medical education for physicians.

The WSU Elson S. Floyd College of Medicine designates this live activity for a maximum of 25.5 *AMA PRA Category 1 Credits*™. Participants should claim only the credit commensurate with the extent of their participation in the activity.

Current as of September 3, 2025. Subject to change.