

Jointly provided by Pacific Vascular, Seattle Science Foundation in collaboration with Swedish Neuroscience Institute

Transcranial Doppler Fundamentals & Interpretation

Virtual live webinar at the Seattle Science Foundation

September 14 – 16, 2022

AGENDA

Wednesday, September 14, 2022

- 7:45 a.m. Zoom Login for Registered Participants and Welcome**
Colleen Douville, BA, RVT, NVS; Julie Guide, RVT
- 8:00 a.m. Transcranial Doppler (TCD) Technique Guidelines**
Colleen Douville, BA, RVT, NVS
Objectives:
- Explain basic TCD non-imaging and TCD-imaging techniques
 - Identify flow characteristics including direction, depth, velocity, and variants
- 8:40 a.m. Hemodynamics and Waveform Interpretation**
Colleen Douville, BA, RVT, NVS
Objectives:
- Present normal and abnormal waveform morphology
 - Describe quantitative and qualitative waveform interpretation parameters
 - Explain how to apply principles to the interpretation of TCD case studies
- 9:20 a.m. Effects of Extracranial Arterial Occlusive Disease on Intracranial Hemodynamics**
Emily L. Ho, M.D., Ph.D.
Objectives:
- Describe how extracranial arterial occlusive disease affects intracranial blood flow
 - Recognize flow patterns consistent with collateral flow
 - Interpret TCD case studies demonstrating collateral pathways
- 10:05 a.m. Break - 15 Minutes** (*not for CME credit*)
- 10:20 a.m. TCD in Subclavian Steal Syndrome**
Bonnie Brown, BS, RVT, NVS
Objectives:
- Summarize protocol and diagnostic criteria for identifying stages of subclavian steal
 - Interpret TCD case studies which demonstrate subclavian steal effects
- 10:40 a.m. Extrinsic Compression of Vertebral Arteries with Head Rotation**
Bonnie Brown, BS, RVT, NVS
Objectives:
- Summarize the assessment of mechanical compression of the vertebral arteries with TCD/TCDI
 - Present TCD diagnostic criteria for identifying this condition
 - Interpret TCD case studies with vertebral artery extrinsic compression

- 11:00 a.m. Vasomotor Reserve Assessment - CO2 Challenge & Breath Holding**
Emily L. Ho, M.D., Ph.D.
Objectives:
- Describe hemodynamic changes during hypercapnia and hypocapnia
 - Present diagnostic criteria used to determine vasomotor reserve capacity
 - Interpret vasomotor reserve assessment case studies
- 11:50 a.m. Clinical Applications of TCD Emboli Monitoring**
Aaron N. Stayman, M.D.
Objectives:
- Describe TCD features of emboli
 - Explain how emboli detection affects medical decision making
 - Interpret TCD emboli monitoring case studies
- 12:50 p.m. Adjourn**

Thursday, September 15, 2022

- 7:45 a.m. Zoom Login for Registered Participants and Welcome**
Colleen Douville, BA, RVT, NVS; Julie Guide, RVT
- 8:00 a.m. TCD in the Detection of Vasospasm**
James F. Wang, M.D.
Objectives:
- Define the pathophysiology of subarachnoid hemorrhage and vasospasm
 - Describe how to apply TCD diagnostic criteria for vasospasm
 - Interpret TCD vasospasm case studies
- 9:00 a.m. TCD in Raised Intracranial Pressure and Cerebral Circulatory Arrest**
Arthur Lam, M.D., FRCPC
Objectives:
- Identify TCD/TCDI findings in high intracranial pressure (ICP) and cerebral circulatory arrest
 - Interpret TCD case studies of raised ICP and cerebral circulatory arrest
- 9:40 a.m. Break - 15 Minutes** (*not for CME credit*)
- 9:55 a.m. Transcranial Doppler in Carotid Endarterectomy**
Colleen Douville, BA, RVT, NVS
Objectives:
- Explain surgical phases and their significance in monitoring
 - Identify critical findings TCD findings pre, intra and post carotid endarterectomy
 - Interpret intraoperative carotid endarterectomy TCD case studies
- 10:35 a.m. Transcranial Doppler in Endovascular Carotid Revascularization**
Yince Loh, M.D.
Objectives:
- Explain procedural phases and expected waveform changes
 - Identify critical TCD findings during carotid endovascular procedures
 - Interpret intraoperative carotid endovascular TCD case studies

- 11:15 a.m. **TCD for Sickle Cell Disease** (*pre-recorded*)
Nicole F. O'Brien, M.D.
Objectives:
- Explain the use of TCD in the management of sickle cell patients
 - Describe treatment strategies in sickle cell disease
 - Interpret sickle cell disease TCD case studies
- 11:55 a.m. **Break - 45 Minutes** (*not for CME credit*)
- 12:40 p.m. **Right-to-Left Shunt/Patent Foramen Ovale (PFO) Evaluation Using TCD Bubble Study**
Mark N. Rubin, M.D.
Objectives:
- Summarize PFO anatomy and pathology
 - Explain grading criteria for this application
 - Interpret TCD bubble study for PFO evaluation
- 1:40 p.m. **Intracranial Stenosis, Occlusion & Acute Stroke**
Andrei V. Alexandrov, M.D.
Objectives:
- Summarize the criteria used in the determination of intracranial stenosis and thrombosis
 - Explain the use of TCD in acute stroke and sonothrombolysis
 - Interpret TCD cases with intracranial stenosis or occlusion
- 2:40 p.m. **Adjourn**

Friday, September 16, 2022

- 7:45 a.m. **Zoom Login for Registered Participants and Welcome**
Colleen Douville, BA, RVT, NVS; Julie Guide, RVT
- 8:00 a.m. **TCD Case Studies & Interpretation**
Andrei Alexandrov, M.D.; Aaron Stayman, M.D.
Objective:
- Interpret TCD case studies in a variety of cerebrovascular diseases
- 10:00 a.m. **Break - 15 Minutes** (*not for CME credit*)
- 10:15 a.m. **TCD Case Studies & Interpretation**
Andrei Alexandrov, M.D.; Arthur Lam, M.D., FRCPC, FNSC
Objective:
- Interpret TCD case studies in a variety of cerebrovascular diseases
- 12:15 p.m. **Break - 30 Minutes** (*not for CME credit*)
- 12:45 p.m. **TCD Case Studies & Interpretation**
Andrei Alexandrov, M.D.; Mark N. Rubin, M.D.
Objective:
- Interpret TCD case studies in a variety of cerebrovascular diseases
- 2:45 p.m. **Adjourn**

DISTINGUISHED FACULTY

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Course Medical Director
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Nichole F. O'Brien, M.D. (*pre-recorded*)
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