New Developments In Transcranial Doppler (TCD) Testing: How It Can Help In Everyday Clinical Practice

Zsolt Garami, MD, RPVI
Medical Director, Vascular Ultrasound Lab

Disclosure

• Nothing

TRANSCRANIAL DOPPLER

“TCD represents the ultimate method of ‘stethoscope to the brain’”
Alan Lumsden, MD

TCD

Advantages - Noninvasive
- Only technique for embolus detection (real time)
- Too sensitive - great when it is quiet !!!!!
- Vasomotor reactivity - BHI
- Flow Velocity and Direction
  - BENEFIT in acute stroke
  - Collateral circulation in carotid stenosis (ACOM, PCOM, reversed flow in the ophthalmic artery)

Disadvantages
- Operator dependent
- Suboptimal windows
- Normal flow pattern

POWER M-MODE TCD

Presence
Depth
Direction
Resistance
Speed

Normal flow pattern
Left ICA occlusion

Oclusive Disease

Lift up your arm - PCA monitoring

PCA monitoring

TRANSCRANIAL DOPPLER WINDOWS

- Orbital (10% power)
- Ophthalmic, ICA siphon
- Temporal
- MCA, ACA, PCA
- Foraminal/Suboccipital
- Vertebral, Basilar
- Submandibular
- ICA
Hololens

Augmented Virtual Reality