## eTABLE 6. ANCILLARY TESTING: TESTS OF CEREBRAL BLOOD FLOW AND PERFUSION[8]

| Test | Diagnostic criteria | Advantages | Disadvantages | Sensitivity/specificity |
|---|---|---|---|---|
| **Digital subtraction angiography /conventional 4-vessel angiography** | Absence of contrast within the intracranial arterial vessels | • Gold standard for ancillary tests | • Requires transport to imaging suite<br>• Invasive (requires technical skills)<br>• Renal susceptibility to contrast<br>• Stasis filling–false negative | 100%/ 100%[a, e103, e104] |
| **Radionuclide angiography** | Absence of radiologic activity upon imaging of the intracranial vault | • Can be performed at bedside<br>• No renal susceptibility to contrast | • Limited evaluation of brainstem<br>• Limited availability<br>• Results can vary based on technique used | 98.5%/56%[e105] |
| **Radionuclide perfusion scintigraphy** | Absence of radiologic activity indicating metabolic uptake upon imaging of the intracranial vault | • Can be performed at bedside (planar imaging) | • Limited availability<br>• Planar imaging may limit brain-stem evaluation<br>• SPECT requires patient transport to scanner | Planar: 77.8%/100% SPECT: 88.4%/100%[a, e106] |
| **Transcranial doppler ultrasound (adult patients)** | Reciprocating flow or small systolic spikes with absent or reversed diastolic flow on initial assessment of intracranial arterial supply, confirmed or proceeding to absent flow velocity signal on second assessment | • Easily performed at bedside<br>• No contrast required<br>• Can assess carotid and basilar circulations | • Operator expertise required<br>• 10% of patients have no acoustic windows | 90%/98%[59] |

[a]Specificity is assumed on basis of experimental data but should be interpreted with caution[e107] given the limitation of studies that reported only on clinically confirmed BD/DNC.

Adapted with permission from Greer DM, Shemie SD, Lewis A, et al. Determination of brain death/death by neurologic criteria: The world brain death project. JAMA 2020;324:1078-1097(suppl 5).

 