Table S4: Critical appraisal classification results

Table S4: Results of the classification of the sub-studies studying haemoglobin (Hb) concentrations and tissue oxygen saturation indices (rSO_2) per QUADAS-2 domain. ECA, external carotid artery; fMRI, functional magnetic resonance imaging; ICA, internal carotid artery; LDF, laser doppler flowmetry; N/A, not applicable; NIRS; duplex, duplex ultrasonography; QUADAS-2, quality assessment of diagnostic accuracy studies second revised version; $S_{cap}O_2$, cerebral capillary oxygen saturation; SC-NIRS, short-channel (short source-detector distance); TCD, transcranial doppler; VA, vertebral artery.

Author	Participant selection	Index test	Reference intracerebral	Reference extracerebral	Perfusion modification	Flow and timing	Participant selection – Applicability	Index test – Applicability	Reference intracerebral – Applicability	Reference extracerebral – Applicability
Haemoglobin (Hb) studies										
Cho 1998-1 [49]	Unclear	Low	N/A	N/A	Low	High	High	Low	N/A	N/A
Cho 1998-2 [49]	Unclear	Low	N/A	N/A	Low	High	High	Low	N/A	N/A
Canova 2011-1 [40]	Unclear	Low	Low	Low	Low	Low	Low	Low	Low	Low
Canova 2011-2 [40]	Unclear	Low	Low	Low	N/A	Low	Low	Low	Low	Low
Canova 2011-3 [40]	Unclear	Low	Low	Low	N/A	Low	Low	Low	Low	Low
Funane 2015-1 [36]	Unclear	High	Low	Unclear	N/A	Unclear	Low	Low	Low	Low
Funane 2015-2 [36]	Unclear	High	Low	Unclear	N/A	Unclear	Low	Low	Low	Low
Funane 2015-3 [36]	Unclear	High	Low	Unclear	N/A	Unclear	Low	Low	Low	Low
Germon 1998-1 [57]	Unclear	Low	Low	N/A	Low	High	Low	Low	Low	N/A
Germon 1998-2 [57]	Unclear	Low	Low	N/A	Low	High	Low	Low	Low	N/A
Germon 1998-3 [57]	Unclear	Low	N/A	N/A	Low	High	Low	Low	N/A	N/A
Germon 1998-4 [57]	Unclear	Low	N/A	N/A	Low	High	Low	Low	N/A	N/A
Germon 1999-1 [56]	Unclear	Low	Low	N/A	Low	Unclear	Low	Low	Low	N/A
Germon 1999-2 [56]	Unclear	Low	Low	N/A	Low	Unclear	Low	Low	Low	N/A
Germon 1999-3 [56]	Unclear	Low	Low	N/A	Low	Unclear	Low	Low	Low	N/A
Germon 1999-4 [56]	Unclear	Low	Low	N/A	Low	Unclear	Low	Low	Low	N/A
Germon 1999-5 [56]	Unclear	Low	Low	N/A	Low	Unclear	Low	Low	Low	N/A
Germon 1999-6 [56]	Unclear	Low	Low	N/A	Low	Unclear	Low	Low	Low	N/A

Germon 1999-7 [56]	Unclear	Low	Low	N/A	Low	Unclear	Low	Low	Low	N/A
Germon 1999-8 [56]	Unclear	Low	Low	N/A	Low	Unclear	Low	Low	Low	N/A
Germon 1999-9 [56]	Unclear	Low	N/A	N/A	Low	Unclear	Low	Low	N/A	N/A
Germon 1999-10 [56]	Unclear	Low	N/A	N/A	Low	Unclear	Low	Low	N/A	N/A
Germon 1999-11 [56]	Unclear	Low	N/A	N/A	Low	Unclear	Low	Low	N/A	N/A
Germon 1999-12 [56]	Unclear	Low	N/A	N/A	Low	Unclear	Low	Low	N/A	N/A
Germon 1999-13 [56]	Unclear	Low	N/A	N/A	Low	Unclear	Low	Low	N/A	N/A
Germon 1999-14 [56]	Unclear	Low	N/A	N/A	Low	Unclear	Low	Low	N/A	N/A
Germon 1999-15 [56]	Unclear	Low	N/A	N/A	Low	Unclear	Low	Low	N/A	N/A
Germon 1999-16 [56]	Unclear	Low	N/A	N/A	Low	Unclear	Low	Low	N/A	N/A
Grubhofer 1999-1 [47]	Unclear	Low	N/A	N/A	Low	Unclear	Low	Low	N/A	N/A
Haeussinger 2014 [37]	Low	Low	Low	Low	N/A	High	Low	Low	Low	Low
Heinzel 2013 [39]	Low	Low	Low	Low	Low	High	Low	Low	Low	Low
Hirasawa 2015-1 [33]	Unclear	Low	N/A	Low	Low	Low	Low	Low	N/A	Low
Hirasawa 2015-2 [33]	Unclear	Low	N/A	Low	Low	Low	Low	Low	N/A	Low
Hirasawa 2015-3 [33]	Unclear	Low	N/A	Low	Low	Low	Low	Low	N/A	Low
Hirasawa 2015-4 [33]	Unclear	Low	N/A	Low	Low	Low	Low	Low	N/A	Low
Hirasawa 2015-5 [33]	Unclear	Low	N/A	Low	Low	Low	Low	Low	N/A	Low
Hirasawa 2015-6 [33]	Unclear	Low	N/A	Low	Low	Low	Low	Low	N/A	Low
Hirasawa 2015-7 [33]	Unclear	Low	N/A	Low	Unclear	Low	Low	Low	N/A	Low
Hirasawa 2015-8 [33]	Unclear	Low	N/A	Low	Unclear	Low	Low	Low	N/A	Low
Hirasawa 2015-9 [33]	Unclear	Low	N/A	Low	Unclear	Low	Low	Low	N/A	Low
Hirasawa 2016-1 [59]	Unclear	Low	N/A	Low	Low	Unclear	Low	Low	N/A	Low
Hirasawa 2016-2 [59]	Unclear	Unclear	N/A	Low	Low	Unclear	Low	High	N/A	Low
Holzschuh 1997 [29]	Unclear	Low	Low	N/A	Low	Unclear	High	Low	Low	N/A
Kirkpatrick 1998-1 [32]	High	High	Low	Low	Low	Unclear	High	High	Low	Low
Kirkpatrick 1998-2 [32]	High	High	Low	Low	Low	Unclear	High	High	Low	Low
Lam 1997-1 [83]	Unclear	Unclear	High	High	Low	High	High	Unclear	Low	Low

Lam 1997-2 [83]	Low	Unclear	High	High	Low	Unclear	High	Unclear	Low	Low
Lam 1997-3 [83]	Unclear	Unclear	High	High	Low	High	High	Unclear	Low	Low
Lam 1997-4 [83]	Low	Unclear	High	High	Low	Unclear	High	Unclear	Low	Low
Moerman 2021-1 [61]	Low	Low	N/A	N/A	Low	High	Low	Low	N/A	N/A
Sato 2013-1 [38]	High	High	Low	Low	N/A	High	Low	Low	Low	fMRI: Low LDF: High
Sato 2013-2 [38]	High	High	Low	Low	N/A	High	Low	Low	Low	fMRI: Low LDF: High
Schecklmann 2017 [34]	High	Low	N/A	Low	High	High	Low	Low	N/A	Low
Smielewski 1995 [31]	Low	Low	Low	Low	Low	High	Low	Low	Low	Low
Smielewski 1997 [78]	Unclear	High	N/A	Low	Unclear	High	High	Low	N/A	Low
Smielewski 1998 [30]	Unclear	Unclear	Low	Low	Low	High	High	Low	Low	Low
Steinbrink 2003 [80]	High	High	Low	Unclear	N/A	Unclear	Low	Low	Low	Unclear
Takahashi 2011 [35]	High	High	N/A	SC-NIRS: Low LDF: Low	Low	High	Low	Low	N/A	SC-NIRS: Low LDF: Low
Tateishi 1995 [58]	Unclear	Low	Low	N/A	Low	High	High	Low	Low	N/A
Toronov 2001 [81]	Low	Low	Unclear	Unclear	N/A	High	Low	Low	Unclear	Unclear
Totaro 1998 [27]	Low	Low	Low	N/A	Low	High	Low	Low	Low	N/A
Yang 2020-1 [28]	Unclear	Low	Low	N/A	Low	High	Low	Low	Low	N/A
Yang 2020-2 [28]	Unclear	Low	Low	N/A	Low	High	Low	Low	Low	N/A
Yang 2020-3 [28]	Unclear	Low	Low	N/A	Low	High	Low	Low	Low	N/A
Yang 2020-4 [28]	Unclear	Low	Low	N/A	Low	High	Low	Low	Low	N/A
Zarei 2019 [77]	Unclear	Unclear	N/A	N/A	High	Unclear	Low	Unclear	N/A	N/A
Tissue oxygen saturation indices (rSO_2) studies										
Al-Rawi 2001-1 [44]	Unclear	Low	Low	Low	Low	Unclear	High	Low	Low	Low
Al-Rawi 2001-2 [44]	Unclear	Low	Low	Low	Low	Unclear	High	Low	Low	Low
Cho 1998-3 [49]	Unclear	Low	N/A	N/A	Low	High	High	Low	N/A	N/A
Cho 1998-4 [49]	Unclear	Low	N/A	N/A	Low	High	High	Low	N/A	N/A

Canova 2011-4 [40]	Unclear	Low	Low	Low	Low	Unclear	Low	Low	Low	Low
Canova 2011-5 [40]	Unclear	Low	Low	Low	N/A	Unclear	Low	Low	Low	Low
Canova 2011-6 [40]	Unclear	Low	Low	Low	N/A	Unclear	Low	Low	Low	Low
Davie 2012-1 [54]	Unclear	Low	N/A	Unclear	Low	Unclear	Low	Low	N/A	Low
Davie 2012-2 [54]	Unclear	Low	N/A	Unclear	Low	Unclear	Low	Low	N/A	Low
Davie 2012-3 [54]	Unclear	Low	N/A	Unclear	Low	Unclear	Low	Low	N/A	Low
Duncan 1995-1 [82]	Unclear	Low	N/A	N/A	Low	Unclear	High	Unclear	N/A	N/A
Duncan 1995-2 [82]	Unclear	Low	N/A	N/A	Low	Unclear	High	Unclear	N/A	N/A
Germon 1994-1 [51]	Unclear	Low	N/A	N/A	Low	High	Low	Low	N/A	N/A
Germon 1994-2 [51]	Unclear	Low	N/A	N/A	High	High	Low	Low	N/A	N/A
Germon 1995-1 [42]	Unclear	Low	Low	N/A	Low	Unclear	Low	Low	Low	N/A
Germon 1995-2 [42]	Unclear	Low	Low	N/A	Low	Unclear	Low	Low	Low	N/A
Germon 1995-3 [42]	Unclear	Low	Low	N/A	Low	Unclear	Low	Low	Low	N/A
Greenberg 2016-1 [52,53]	Low	Low	N/A	Unclear	Low	High	Low	Low	N/A	Low
Greenberg 2016-2 [52,53]	Low	Low	N/A	Unclear	Low	High	Low	Low	N/A	Low
Grubhofer 1999-2 [47]	Unclear	Low	N/A	N/A	Low	Unclear	Low	Low	N/A	N/A
Henson 1998 [46]	Unclear	Low	Low	N/A	Low	High	Low	Low	Low	N/A
Kato 2017-1 [50]	Low	Low	N/A	Unclear	Low	Low	Low	Low	N/A	Low
Kato 2017-2 [50]	Low	Low	N/A	Unclear	Low	Low	Low	Unclear	N/A	Low
Kato 2017-3 [50]	Low	Low	N/A	Unclear	Low	Low	Low	Unclear	N/A	Low
Kato 2017-4 [50]	Low	Low	N/A	Unclear	Low	Low	Low	Unclear	N/A	Low
Moerman 2021-2 [60]	Low	Low	N/A	N/A	Low	High	Low	Low	N/A	N/A
Ogoh 2014 [23]	Unclear	Low	Duplex ICA: Low TCD: Low Duplex VA: Low	Duplex ECA: Low LDF: Low	Low	High	Low	Low	Duplex ICA: Low TCD: Low Duplex VA: Low	Duplex ECA: Low LDF: Low
Picton 2022 [43]	Low	Low	Low	N/A	Low	Unclear	High	Low	Low	N/A

Samra 1999-1 [48]	Unclear	Low	N/A	N/A	Low	High	High	Low	N/A	N/A
Samra 1999-2 [48]	Unclear	Low	N/A	N/A	Low	High	High	Low	N/A	N/A
Sørensen 2015-1 [55]	Unclear	Low	TCD: Low $S_{cap}O_2$: Low	Low	Low	Unclear	Low	Low	Low	Low
Sørensen 2015-2 [55]	Unclear	Low	TCD: Low $S_{cap}O_2$: Low	Low	Low	Unclear	Low	Low	Low	Low
Sørensen 2015-3 [55]	Unclear	Low	TCD: Low $S_{cap}O_2$: Low	Low	High	Unclear	Low	Low	Low	Low
Sørensen 2015-4 [55]	Unclear	Low	TCD: Low $S_{cap}O_2$: Low	Low	High	Unclear	Low	Low	Low	Low
Sørensen 2015-5 [55]	Unclear	Low	TCD: Low $S_{cap}O_2$: Low	Low	Low	Unclear	Low	Low	Low	Low
Sørensen 2015-6 [55]	Unclear	Low	TCD: Low $S_{cap}O_2$: Low	Low	High	Unclear	Low	Low	Low	Low
Sørensen 2015-7 [55]	Unclear	Low	TCD: Low $S_{cap}O_2$: Low	Low	High	Unclear	Low	Low	Low	Low
Sørensen 2015-8 [55]	High	Low	TCD: Low $S_{cap}O_2$: Low	Low	Low	Unclear	Low	Low	Low	Low
Sørensen 2015-9 [55]	High	Low	TCD: Low $S_{cap}O_2$: Low	Low	Low	Unclear	Low	Low	Low	Low
Sørensen 2015-10 [55]	High	Low	TCD: Low $S_{cap}O_2$: Low	Low	High	Unclear	Low	Low	Low	Low
Sørensen 2015-11 [55]	High	Low	TCD: Low $S_{cap}O_2$: Low	Low	High	Unclear	Low	Low	Low	Low
Sørensen 2015-12 [55]	High	Low	TCD: Low $S_{cap}O_2$: Low	Low	Low	Unclear	Low	Low	Low	Low
Sørensen 2015-13 [55]	High	Low	TCD: Low $S_{cap}O_2$: Low	Low	High	Unclear	Low	Low	Low	Low
Sørensen 2015-14 [55]	High	Low	TCD: Low $S_{cap}O_2$: Low	Low	High	Unclear	Low	Low	Low	Low

Tachtsidis 2008 [41]	Unclear	Low	Low	Low	Low	High	Low	Low	Low	Low
Takeda 2000 [79]	Unclear	Low	Low	N/A	Unclear	High	High	Unclear	Low	N/A
Yoshitani 2002-1 [45]	Low	Low	Low	N/A	Low	Unclear	Low	Low	Low	N/A
Yoshitani 2002-2 [45]	Low	Low	Low	N/A	Low	Unclear	Low	Low	Low	N/A
Yoshitani 2002-3 [45]	Low	Low	Low	N/A	Low	Unclear	Low	Low	Low	N/A
Yoshitani 2002-4 [45]	Low	Low	Low	N/A	Low	Unclear	Low	Low	Low	N/A

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