

APPENDIX B: LIST OF EXCLUDED STUDIES

Exclude reasons: B=Relevant for background information only, 1=Ineligible population, 2=Ineligible intervention, 3=Ineligible comparator, 4=Ineligible outcome, 5=Ineligible timing, 6=Ineligible study design, 7=Ineligible publication type 8=Outdated or ineligible systematic review, 9=non-English language, 10=Full text not available

#	Citation	Exclude reason
1	Al-Rawi PG. Near infrared spectroscopy in brain injury: today's perspective. <i>Acta Neurochir Suppl.</i> 2005;95:453-457.	E7
2	Arshi B, Mack WJ, Emanuel B. Invasive and noninvasive multimodal bedside monitoring in subarachnoid hemorrhage: a review of techniques and available data. <i>Neurol Res Int.</i> 2013;2013:987934.	E4
3	Bein B, Döriges V, Tonner PH. Near-infrared spectroscopy. <i>J. Anasth. Intensivbehandl.</i> 2003;10(1):286-287.	E9
4	Braun T, Kunz U, Schulz C, Lieber A, Willy C. Near-infrared spectroscopy for the detection of traumatic intracranial hemorrhage: Feasibility study in a German army field hospital in Afghanistan. <i>Unfallchirurg.</i> 2015;118(8):693-700.	E9
5	Colier WN, Ringnalda BE, Evers JA, Oeseburg B. Evaluation of the algorithm used in near infrared spectrophotometry. <i>Adv Exp Med Biol.</i> 1992;317:305-311.	E1
6	Cruz J. Near-infrared spectroscopy. <i>J Neurosurg.</i> Jan 1994;80(1):181-182.	E7
7	Cruz J. Relevant limitations of near-infrared spectroscopy. <i>Crit Care Med.</i> Mar 1997;25(3):555-556.	E7
8	Davies DJ, Su Z, Clancy MT, et al. Near-Infrared Spectroscopy in the Monitoring of Adult Traumatic Brain Injury: A Review. <i>Journal of Neurotrauma.</i> Jul 01 2015;32(13):933-941.	B
9	Dieters EI, Hidding SH, Kalisvaart M, Mik EG. Near infrared spectroscopy: an asset to the diagnosis and treatment of traumatic brain injury. <i>Erasmus J Med.</i> 2011;1(2):23-26.	E8
10	Food Drug Administration HHS. Medical devices; neurological devices; classification of the Near Infrared Brain Hematoma Detector. Final rule. <i>Fed Regist.</i> Mar 23 2012;77(57):16925-16927.	B
11	Francis R, Khan B, Alexandrakis G, Florence J, MacFarlane D. NIR light propagation in a digital head model for traumatic brain injury (TBI). <i>Biomed Opt Express.</i> Sep 01 2015;6(9):3256-3267.	E1
12	Fuentes G. Hand-held brain scanners. <i>Navy Times.</i> 08/16/ 2010;59(47):3-3.	E10
13	Ganapathy P, Joshi SH, Yadegar J, Kamat N, Caluser C. An intelligent and portable ambulatory medical toolkit for automatic detection and assessment of traumatic brain injuries. Paper presented at: 1st Wireless Health Conference,	E10

	WH'102010; San Diego, CA.	
14	Goldberg S, Lott C, Ostermeyer M, Hennes HJ. Near-infrared spectroscopy as a diagnostic tool in patients with suspected stroke or traumatic brain injury. Paper presented at: Diagnostic Optical Spectroscopy in Biomedicine2001; Munich.	E10
15	Gopinath S.P., Chance B., C.S. R. Near-infrared spectroscopy in head injury. In: Narayan RK, Wilberger J, J. P, eds. <i>Neurotrauma</i> . Vol 1. New York, NY McGraw-Hill; 1994:169-184.	E4
16	Gopinath SP, Robertson CS, Contant CF, Narayan RK, Grossman RG, Chance B. Early detection of delayed traumatic intracranial hematomas using near-infrared spectroscopy. <i>J Neurosurg</i> . Sep 1995;83(3):438-444.	E4
17	Gopinath SP, Robertson CS, Grossman RG, Chance B. Near-infrared spectroscopic localization of intracranial hematomas. <i>J Neurosurg</i> . Jul 1993;79(1):43-47.	E4
18	Hänggi D. Monitoring and detection of vasospasm II: EEG and invasive monitoring. <i>Neurocrit Care</i> . 2011;15(2):318-323.	E4
19	Hanley DF, Chabot R, Mould WA, et al. Use of brain electrical activity for the identification of hematomas in mild traumatic brain injury. <i>Journal of Neurotrauma</i> . Dec 15 2013;30(24):2051-2056.	E2
20	Harkins G. A portable brain scanner. <i>Air Force Times</i> . 07/09/2012 2012;72(52):3-3.	B
21	Hongo K, Kobayashi S, Okudera H, Hokama M, Nakagawa F. Noninvasive cerebral optical spectroscopy: Depth-resolved measurements of cerebral haemodynamics using indocyanine green. <i>Neurol Res</i> . 1995;17(2):89-93.	E4
22	InfraScan receives CE mark for brain hematoma detector. <i>Diagnostics & Imaging Week</i> . 2008;11(43):1-8.	B
23	Irani F, Platek SM, Bunce S, Ruocco AC, Chute D. Functional near infrared spectroscopy (fNIRS): an emerging neuroimaging technology with important applications for the study of brain disorders. <i>Clin Neuropsychol</i> . Jan 2007;21(1):9-37.	B
24	Kakahana Y, Arimura T, Oda T, Yoshimura N. Non-invasive monitoring of cerebral oxygenation by NIR spectrophotometry (clinical trial). <i>JPN. J. ANESTHESIOLOGY</i> . 1995;44(6):853-857.	E9
25	Kampfl A, Pfausler B, Denchev D, Jaring HP, Schmutzhard E. Near infrared spectroscopy (NIRS) in patients with severe brain injury and elevated intracranial pressure. A pilot study. <i>Acta Neurochir Suppl</i> . 1997;70:112-114.	E4
26	Kannan R, Przekwas A. A near-infrared spectroscopy computational model for cerebral hemodynamics. <i>Int j numer method biomed eng</i> . Nov 2012;28(11):1093-1106.	E1
27	Keller E, Froehlich J, Baumann D, et al. Detection of delayed cerebral ischemia (DCI) in subarachnoid haemorrhage applying near-infrared spectroscopy: elimination of the extracerebral signal by transcutaneous and intraparenchymatous	E4

	measurements in parallel. <i>Acta Neurochir Suppl.</i> 2015;120:243-247.	
28	Keller E, Froehlich J, Muroi C, Sikorski C, Muser M. Neuromonitoring in intensive care: a new brain tissue probe for combined monitoring of intracranial pressure (ICP) cerebral blood flow (CBF) and oxygenation. <i>Acta Neurochir Suppl.</i> 2011;110(Pt 2):217-220.	E4
29	Keller E, Ishihara H, Nadler A, et al. Evaluation of brain toxicity following near infrared light exposure after indocyanine green dye injection. <i>J Neurosci Methods.</i> May 30 2002;117(1):23-31.	E4
30	Keller E, Mudra R. Measurement of cerebral blood flow with near infrared spectroscopy and indocyanine green dye dilution. <i>Curr. Med. Imaging Rev.</i> 2007;3(2):139-150.	E4
31	Keller E, Nadler A, Imhof HG, Niederer P, Roth P, Yonekawa Y. New methods for monitoring cerebral oxygenation and hemodynamics in patients with subarachnoid hemorrhage. <i>Acta Neurochir Suppl.</i> 2002;82:87-92.	E4
32	Keller E, Wolf M, Martin M, Yonekawa Y. Estimation of cerebral oxygenation and hemodynamics in cerebral vasospasm using indocyanine green dye dilution and near infrared spectroscopy: a case report. <i>J Neurosurg Anesthesiol.</i> Jan 2001;13(1):43-48.	E4
33	Kerr ME, Marion D, Orndoff PA, Weber BB, Sereika SM. Evaluation of near infrared spectroscopy in patients with traumatic brain injury. <i>Adv Exp Med Biol.</i> 1998;454:131-137.	E4
34	Kessel B, Jeroukhimov I, Ashkenazi I, Oren M, Halevy A, Alfici R. Early detection of life threatening intracranial haemorrhage using a portable near infrared spectroscopy device. <i>Injury Extra.</i> 2009;40(10):213.	E7
35	Kim AL. Portable traumatic brain injury detection with near-infrared technology: infrascanner model 2000. <i>Mil Med.</i> May 2015;180(5):597-598.	E7
36	Kirkman MA, Smith M. Supratentorial intracerebral hemorrhage: A Review of the underlying pathophysiology and its relevance for multimodality neuromonitoring in neurointensive care. <i>J Neurosurg Anesthesiol.</i> 2013;25(3):228-239.	B
37	Kirkpatrick PJ, Smielewski P, Czosnyka M, Menon DK, Pickard JD. Near-infrared spectroscopy use in patients with head injury. <i>J Neurosurg.</i> Dec 1995;83(6):963-970.	E4
38	Leonard Kim A. Portable Traumatic Brain Injury Detection With Near-Infrared Technology: Infrascanner Model 2000. Vol 180: AMSUS; 2015:597-598.	B
39	Mahdavi Z, Pierre-Louis N, Thuy-Tien H, Figueroa SA, Olson DM. Advances in Cerebral Monitoring for the Patient with Traumatic Brain Injury. <i>Critical Care Nursing Clinics of North America.</i> 2015;27(2):213-223.	E7
40	March K. Application of technology in the treatment of traumatic brain injury. <i>Critical Care Nursing Quarterly.</i> 2000;23(3):26-37.	E7
41	Martinez-Coll A, Morgan MK, Nguyen H, Hunyor SN. Near infrared spectroscopy (NIRS) measurements following subarachnoid hemorrhage (SAH): Potential for	E10

	the detection of vasospasm. Paper presented at: Proceedings of the 1999 IEEE Engineering in Medicine and Biology 21st Annual Conference and the 1999 Fall Meeting of the Biomedical Engineering Society (1st Joint BMES / EMBS)1999; Atlanta, GA, USA.	
42	Maslehaty H, Krause-Titz U, Petridis AK, Barth H, Mehdorn HM. Continuous measurement of cerebral oxygenation with near-infrared spectroscopy after spontaneous subarachnoid hemorrhage. <i>ISRN neurol.</i> 2012;2012:907187.	E2
43	Messerer M, Daniel RT, Oddo M. Neuromonitoring after major neurosurgical procedures. <i>Minerva Anesthesiol.</i> Jul 2012;78(7):810-822.	E7
44	Michaelson SM. Are your workers exposed to non-ionizing radiant energy? <i>IMS Ind Med Surg.</i> Oct 1973;42(9):9-13.	E1
45	Misra M, Alp MS, Dujovny M, Ausman JI. Near-infrared spectroscopy. <i>J Neurosurg.</i> Aug 1996;85(2):363-364.	E7
46	Mobile device identifies head injuries. <i>Emergency Nurse.</i> 2016;23(9):7-7.	E7
47	Newbold D. New hand-held assessment device may save lives. <i>British Journal of Neuroscience Nursing.</i> 2007;3(5):217-217.	B
48	Novoseltseva A, Aristov A, Timchenko K. Experimental facility control system for optical studies in the frame of problem solving of brain hematoma diagnostics. Paper presented at: 21st International Conference for Students and Young Scientists: Modern Technique and Technologies, MTT 20152015.	B
49	Petrov A, Prough DS, Petrov Y, et al. Noninvasive, optoacoustic detection and characterization of intra- and extracranial hematomas and cerebral hypoxia. Paper presented at: Photons Plus Ultrasound: Imaging and Sensing 20152015.	E10
50	Polito MZ, Thompson JWG, DeFina PA. A review of the International Brain Research Foundation novel approach to mild traumatic brain injury presented at the International Conference on Behavioral Health and Traumatic Brain Injury. <i>Journal of the American Academy of Nurse Practitioners.</i> 2010;22(9):504-509.	B
51	Ricker JH, DeLuca J, Frey SH. On the changing roles of neuroimaging in rehabilitation science. <i>Brain imaging behav.</i> Sep 2014;8(3):333-334.	E7
52	Riley JD, Amyot F, Pohida T, et al. A hematoma detector-a practical application of instrumental motion as signal in near infra-red imaging. <i>Biomed Opt Express.</i> Jan 01 2012;3(1):192-205.	E1
53	Robertson C, Gopinath S, Chance B. Identifying intracranial hematomas with near-infrared spectroscopy. <i>Transcranial Cerebral Oximetry</i> , G. Litscher and G. Schwarz. Eds; 1997; Pabst Science, Berlin.	E7
54	Robertson CS, Gopinath SP, Chance B. A new application for near-infrared spectroscopy: detection of delayed intracranial hematomas after head injury. <i>Journal of Neurotrauma.</i> Aug 1995;12(4):591-600.	B
55	Robertson CS, Gopinath SP, Chance B. Use of near infrared spectroscopy to identify traumatic intracranial hematomas. <i>J Biomed Opt.</i> 1997;2(1):31-41.	E7

56	Schober P, Bossers SM, Schwarte LA. Intracranial Hematoma Detection by Near Infrared Spectroscopy in a Helicopter Emergency Medical Service: Practical Experience. <i>BioMed Research International</i> . 2017:1-6.	E1
57	Sen AN, Gopinath SP, Robertson CS. Clinical application of near-infrared spectroscopy in patients with traumatic brain injury: a review of the progress of the field. <i>Neurophotonics</i> . Jul 2016;3(3):031409.	B
58	Sensintaffar EL, Sliney DH, Parr WH. An analysis of a reported occupational exposure to infrared radiation. <i>Am Ind Hyg Assoc J</i> . Jan 1978;39(1):63-69.	E2
59	Smith M, Elwell C. Near-infrared spectroscopy: shedding light on the injured brain. <i>Anesth Analg</i> . Apr 2009;108(4):1055-1057.	E7
60	Smith M. Shedding light on the adult brain: a review of the clinical applications of near-infrared spectroscopy. <i>Philos Transact Ser A Math Phys Eng Sci</i> . Nov 28 2011;369(1955):4452-4469.	B
61	Stocchetti N, Le Roux P, Vespa P, et al. Clinical review: neuromonitoring - an update. <i>Crit Care</i> . Jan 15 2013;17(1):201.	E7
62	Sultan E, Manseta K, Gandjbakhche A, Daryoush AS. Untethered helmet mounted functional near infrared (fNIR) biomedical imaging for hematoma detection! Paper presented at: 2013 IEEE MTT-S International Microwave and RF Conference, IMaRC 20132013; New Delhi.	E10
63	Tandon PN. Near infrared spectroscopy : An emerging non-invasive optical imaging technique. <i>Neurol. India</i> . 1999;47(2):83-84.	E7
64	Timchenko KA, Aristov AA, Musorov IS, Evtushenko TG. Development of optoelectronic system for subdural hematoma diagnostics. Paper presented at: 2014 IEEE 15th International Conference of Young Specialists on Micro/Nanotechnologies and Electron Devices, EDM 20142014; Altai.	E10
65	Tyzo B, Trojanowski T, D. S, Rola R. Algorithm of initial management of mild head injury using the portable near-infrared spectroscope. <i>Neurologia Praktyczna</i> . 2014:13-20.	E10
66	Vinciguerra L, Bösel J. Noninvasive Neuromonitoring: Current Utility in Subarachnoid Hemorrhage, Traumatic Brain Injury, and Stroke. <i>Neurocrit Care</i> . 2016:1-19.	E4
67	Zabel TA, Chute DL. Educational neuroimaging: a proposed neuropsychological application of near-infrared spectroscopy (nIRS). <i>J Head Trauma Rehabil</i> . Oct 2002;17(5):477-488.	B
68	Zhang Q, Ma H, Nioka S, Chance B. Study of near infrared technology for intracranial hematoma detection. <i>J Biomed Opt</i> . 2000;5(2):206-213.	E1
69	Zheng L, Lee HS, Wilson DA, Hanley DF, Lokos S, Kim J. Experimental studies on brain hematoma detection and oxygenation monitoring using PRM/NIR sensors. Paper presented at: Proceedings of Optical Tomography and Spectroscopy of Tissue: Theory, Instrumentation, Model and Human Studies II1997; San Jose, CA.	E1