



Peer Reviewed Studies Index

Disclosure: This publication package contains peer reviewed literature that may discuss off-label uses of FDA cleared medical device BrainScope One (registered as the Ahead 300). Specific disclosures in this package clearly identify proposed uses that are outside the cleared indications of BrainScope One. Please contact BrainScope for the complete labeling. This publication package was current at the time of its creation. Please contact Dr. Leslie Prichep (Chief Scientific Officer) at leslie.prichep@brainscope.com for any questions regarding publications.

Category	Publication Citation	DOI Link
FDA Pivotal Study	Hanley D, Prichep LS, Badjatia N, Bazarian J, Chiacchierini R, Curley K, Garrett J, Jones E, Naunheim R, O'Neil B, O'Neill J, Wright DW, Huff JS. A Brain Electrical Activity (EEG) Based Biomarker of Functional Impairment in Traumatic Head Injury: A Multisite Validation Trial. <i>Journal of Neurotrauma.</i> 2018; 35(1):41-47.	https://doi.org/10.1089/neu.2017.5004
	Hanley D, Prichep LS, Bazarian J, Huff JS, Naunheim R, Garrett J, Jones E, Wright DW, O'Neill J, Badjatia N, Gandhi D, Curley K, Chiacchierini R, O'Neil B, Hack D. Emergency Department Triage of Traumatic Head Injury Using Brain Electrical Activity Biomarkers: A Multisite Prospective Observational Validation Trial. <i>Academic Emergency Medicine.</i> 2017; 24(5):617-627.	https://doi.org/10.1111/acem.13175
Clinical Validation	Covassin T, McGowan AL, Bretzin AC, Anderson M, Petit KM, Savage JL, Stephenson KL, Elbin RJ, Pontifex MB. Preliminary investigation of a multimodal enhanced brain function index among high school and collegiate concussed male and female athletes. <i>The Physician and Sportsmedicine.</i> 2020; doi: 10.1080/00913847.2020.1745717.	https://doi.org/10.1080/00913847.2020.1745717
	Wilde EA, Goodrich-Hunsaker MJ, Ware AL, Taylor BA, Biekman BD, Hunter JV, Newman-Norlund R, Scarneo S, Casa DJ, Levin HS. Diffusion Tensor Imaging Indicators of White Matter Injury Are Correlated with a Multimodal Electroencephalography-Based Biomarker in Slow Recovering, Concussed Collegiate Athletes. <i>Journal Neurotrauma.</i> 2020; doi.org/10.1089/neu.2018.6365.	https://doi.org/10.1089/neu.2018.6365
	Michelson EA, Huff S, Garrett J, Naunheim R. Triage of Mild Head-Injured Intoxicated Patients Could Be Aided by Use of an Electroencephalogram-Based Biomarker. <i>Journal of Neuroscience Nursing.</i> 2019; 51(2):62-66	https://doi.org/10.1097/jnn.0000000000000420
	Naunheim R, Covassin T, Jacquin A, Hanley D, Michelson E. Using a brain electrical activity biomarker could aid in the identification of mild Traumatic Brain Injury patients. <i>American Journal of Emergency Medicine.</i> 2018; 36(1):142-143.	https://doi.org/10.1016/j.ajem.2017.07.007
	Hack D, Huff JS, Curley K, Naunheim R, Ghosh Dastidar S, Prichep LS. Increased Prognostic Accuracy of TBI when a Brain Electrical Activity Biomarker is Added to Loss of Consciousness (LOC). <i>American Journal of Emergency Medicine.</i> 2017; 35(7):949-952.	https://doi.org/10.1016/j.ajem.2017.01.060
	Huff JS, Naunheim R, Ghosh Dastidar S, Bazarian J, Michelson EW. Referrals for CT scans in mild TBI patients can be aided by the use of a brain electrical activity biomarker. <i>American Journal of Emergency Medicine.</i> 2017; 35(11):1777-1779.	https://doi.org/10.1016/j.ajem.2017.05.027

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Emergency Department / Clinical Practice	Naunheim R, Konstantinovic Kosco M, Poirier R. Reduction in unnecessary CT scans for head injury in the emergency department using an FDA cleared device. <i>American Journal of Emergency Medicine.</i> 2019: In Press.	https://doi.org/10.1016/j.ajem.2019.04.037
	Prichep LS, Naunheim R, Bazarian J, Mould WA, Hanley D. Identification of Hematomas in Mild Traumatic Brain Injury Using an Index of Quantitative Brain Electrical Activity. <i>Journal of Neurotrauma.</i> 2015; 32(1):17-22.	https://doi.org/10.1089/neu.2014.3365
	Ayaz SI, Thomas C, Kulek A, Tolomello R, Mika V, Robinson D, Medado P, Pearson C, Prichep LS, O'Neil BJ. Comparison of Quantitative EEG to Current Clinical Decision Rules for Head CT Use in Acute Mild Traumatic Brain Injury in the ED. <i>American Journal of Emergency Medicine.</i> 2015; 33(4):493-496.	https://doi.org/10.1016/j.ajem.2014.11.015
	Michelson EA, Hanley D, Chabot R, Prichep LS. Identification of Acute Stroke Using Quantified Brain Electrical Activity. <i>Academic Emergency Medicine.</i> 2015; 22(1):67-72.	https://doi.org/10.1111/acem.12561
	Hanley D, Chabot R, Mould WA, Morgan T, Naunheim R, Sheth K, Chiang W, Prichep L. Use of Brain Electrical Activity for the Identification of Hematomas in Mild Traumatic Brain Injury. <i>Journal of Neurotrauma.</i> 2013; 30(24):2051-2056.	https://doi.org/10.1089/neu.2013.3.3062
	O'Neil B, Prichep L, Naunheim R, Chabot R. Quantitative Brain Electrical Activity in the Initial Screening of Mild Traumatic Brain Injuries. <i>Western Journal of Emergency Medicine.</i> 2012; 13(5):394-400.	https://doi.org/10.5811/westjem.2011.12.6815
	Naunheim R, English J, Treaster M, Casner T. Automated Electroencephalogram (EEG) Identifies Abnormalities in the Emergency Department. <i>American Journal of Emergency Medicine.</i> 2011; 29(8):845-848.	https://doi.org/10.1016/j.ajem.2010.03.010
	Naunheim R, English J, Treaster M, Casner T, Chabot R. Use of Brain Electrical Activity to Quantify TBI Brain Dysfunction in the ED. <i>Brain Injury.</i> 2010; 24(11):1324-1329.	https://doi.org/10.3109/02699052.2010.506862
	Naunheim R, Casner T. Novel Method for Detecting Brain Abnormality in a Patient with Epidural Hematoma: A Case Report. <i>American Journal of Emergency Medicine.</i> 2010; 28(3):386.e1-2.	https://doi.org/10.1016/j.ajem.2009.05.008
Technology	Vincent AS, Bailey CM, Cowan C, Cox-Fuenzalida E, Dyche J, Gorgens KA, Krawczyk D, Young L. Normative Data for Evaluating Mild Traumatic Brain Injury with a Handheld Neurocognitive Assessment Tool. <i>Applied Neuropsychology: Adult.</i> 2017; 24(6):566-576.	https://doi.org/10.1080/23279095.2016.1213263
	Prichep LS, Ghosh-Dastidar S, Jacquin A, Koppes W, Miller J, Radman T, O'Neil B, Naunheim R, Huff JS. Classification Algorithms for the Identification of Structural Injury in TBI Using Brain Electrical Activity. <i>Computers in Biology and Medicine.</i> 2014; 53:125-133.	https://doi.org/10.1016/j.compbiomed.2014.07.011
	Prichep LS, Jacquin A, Filipenko J, Ghosh-Dastidar S, Zabele S, Vodenčarević A, Rothman NS. Classification of Traumatic Brain Injury Severity Using Informed Data Reduction in a Series of Binary Classifier Algorithms. <i>IEEE Transactions on Neural Systems & Rehabilitation Engineering.</i> 2012; 20(6):806-822.	https://doi.org/10.1109/tnsre.2012.2206609

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Sports Concussion / Longitudinal Studies	Jacquin A, Kanakia S, Oberly D, Prichep L. A multimodal biomarker for concussion identification, prognosis and management. <i>Computers in Biology and Medicine.</i> 2018; 102:95-103	https://doi.org/10.1016/j.compbiomed.2018.09.011
	Brooks MA, Bazarian JJ, Prichep LS, Ghosh-Dastidar S, Talavage TM, Barr W. The Use of an Electrophysiological Brain Function Index in the Evaluation of Concussed Athletes. <i>Journal of Head Trauma Rehabilitation.</i> 2018; 33(1):1-6.	https://doi.org/10.1097/htr.0000000000000328
	Prichep L, McCrea M, Barr W, Powell M, Chabot R. Time Course of Clinical and Electrophysiological Recovery After Sport-Related Concussion. <i>Journal of Head Trauma Rehabilitation.</i> 2013; 28(4):266-273.	https://doi.org/10.1097/htr.0b013e318247b54e
	Barr W, Prichep L, Chabot R, Powell M, McCrea M. Measuring Brain Electrical Activity to Track Recovery from Sport Related Concussion. <i>Brain Injury.</i> 2012; 26(1):58-66.	https://doi.org/10.3109/02699052.2011.608216
	McCrea M, Prichep L, Powell M, Chabot R, Barr W. Acute Effects and Recovery After Sports-Related Concussion: A Neurocognitive and Quantitative Brain Electrical Activity Study. <i>Journal of Head Trauma Rehabilitation.</i> 2010; 25(4):283-292.	https://doi.org/10.1097/htr.0b013e3181e67923
Evidence of Clinical Need	Curley KC, O'Neil BJ, Naunheim R, Wright DW. Intracranial Pathology (CT+) in Emergency Department Patients With High GCS and High Standard Assessment of Concussion (SAC) Scores. <i>Journal of Head Trauma Rehabilitation.</i> 2018; 33(3):E61-E66.	https://doi.org/10.1097/htr.0000000000000355
	Michelson EA, Huff S, Loparo M, Naunheim R, Perron A, Rahm M, Smith D, Stone J, Berger A. Emergency Department Time Course for Mild Traumatic Brain Injury Workup. <i>Western Journal of Emergency.</i> 2015; 19(4):635-640.	https://doi.org/10.5811/westjem.2018.5.37293
	O'Neil B, Naunheim R, DeLorenzo R. CT Positive Brain Injury in Mild TBI Patients Presenting with Normal SAC Scores. <i>Journal of Military Medicine.</i> 2014; 179(11):1250-1253.	https://doi.org/10.7205/milmed-d-13-00585
	Huff S, Jahar, S. Differences in Interpretation of Cranial CT in Emergency Department TBI Patients by Expert Neuroradiologists. <i>American Journal of Emergency Medicine.</i> 2014; 32(6):606-608.	https://doi.org/10.1016/j.ajem.2014.03.010