

# Positive Fluid Balance

A positive [fluid balance](#) indicates that the patient's fluid input is higher than their output.

In critically ill patients with traumatic brain injury, there is significant variability in fluid management, with more [positive fluid balances](#) being associated with worse outcomes. These results, when added to previous evidence, suggest that aiming for neutral fluid balances, indicating a state of [normovolemia](#), contributes to improved outcome <sup>1)</sup>.

Restrictive fluid management can reduce cerebral edema and improve the prognosis but does not affect the 28-day mortality of patients with sTBI <sup>2)</sup>

Greater positive net fluid balance is independently associated with poorer functional outcome in patients with aSAH <sup>3)</sup>.

<sup>1)</sup>

Wiegers EJA, Lingsma HF, Huijben JA, Cooper DJ, Citerio G, Frisvold S, Helbok R, Maas AIR, Menon DK, Moore EM, Stocchetti N, Dippel DW, Steyerberg EW, van der Jagt M; CENTER-TBI; OzENTER-TBI Collaboration Groups. Fluid balance and outcome in critically ill patients with traumatic brain injury (CENTER-TBI and OzENTER-TBI): a prospective, multicentre, comparative effectiveness study. *Lancet Neurol*. 2021 Aug;20(8):627-638. doi: 10.1016/S1474-4422(21)00162-9. PMID: 34302787.

<sup>2)</sup>

Zhao S, Xu D, Li R, Zou Q, Chen Z, Wang H, He X. [Clinical efficacy of restrictive fluid management in patients with severe traumatic brain injury]. *Nan Fang Yi Ke Da Xue Xue Bao*. 2021 Jan 30;41(1):111-115. Chinese. doi: 10.12122/j.issn.1673-4254.2021.01.16. PMID: 33509762; PMCID: PMC7867488.

<sup>3)</sup>

Kissoon NR, Mandrekar JN, Fugate JE, Lanzino G, Wijedicks EF, Rabinstein AA. Positive Fluid Balance Is Associated With Poor Outcomes in Subarachnoid Hemorrhage. *J Stroke Cerebrovasc Dis*. 2015 Oct;24(10):2245-51. doi: 10.1016/j.jstrokecerebrovasdis.2015.05.027. Epub 2015 Aug 13. PMID: 26277290.

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