Mean flow index

- Efficacy of high-flow nasal cannula therapy and its effectiveness in home settings for paediatric obstructive sleep apnoea
- Association of Cardio-Ankle Vascular Index with Tonometric Measures and Vasodilator Function Across a Spectrum of Cardiovascular Risk Burden
- Artificial intelligence-assisted detection of fractures on radiographs with BoneView: a systematic review
- Effect of blood flow restriction on muscle strength and stability following foot and ankle injury: A systematic review
- The Effect of Hypotension on Cerebral Metabolism and Perfusion in Adults Undergoing Cardiopulmonary Bypass: A Prospective Cohort Study
- In-Exercise Caffeine Improves Exercise Performance in the Heat Without Exacerbating Hyperventilation and Brain Hypoperfusion
- Consensus document on neurosonological techniques in headaches
- Optimizing Chemotherapy Waiting Time in the Day Care Unit for Gastrointestinal Cancer Patients: A Lean Six Sigma Approach

The mean flow usually referred to as Mx-has been used for assessing dynamic cerebral autoregulation (dCA) for almost 30 years. However, concerns have arisen regarding methodological consistency, construct and criterion validity, and test-retest reliability. Methodological nuances, such as choice of input (cerebral perfusion pressure, invasive or non-invasive arterial pressure), pre-processing approach and artifact handling, significantly influence mean flow index values, and previous studies correlating mean flow index with other established dCA metrics are confounded by inherent methodological flaws like heteroscedasticity, while the mean flow index also fails to discriminate individuals with presumed intact versus impaired dCA (discriminatory validity), and its prognostic performance (predictive validity) across various conditions remains inconsistent. The test-retest reliability, both within and between days, is generally poor. At present, no single approach for data collection or pre-processing has proven superior for obtaining the mean flow index, and caution is advised in the further use of mean flow index-based measures for assessing dCA, as current evidence does not support their clinical application [1)].

1)
Olsen MH, Riberholt CG, Berg RMG, Møller K. Myths and methodologies: Assessment of dynamic cerebral autoregulation by the mean flow index. Exp Physiol. 2024 Feb 20. doi: 10.1113/EP091327. Epub ahead of print. PMID: 38376110.