

Brain Injury Guidelines

see [Severe traumatic brain injury guidelines](#).

The [Brain Injury Guidelines](#) (BIG) are a [classification](#) tool for stratifying [patients](#) into injury severity and risk-of-progression categories based on presenting clinical and radiographic findings. In a study, Ross et al. aimed to validate BIG criteria at a single [level 1 trauma center](#).

Patients were classified according to BIG criteria and evaluated for subsequent radiographic progression or development of neurological decline. A 2-year retrospective cohort review of consecutive patients with neurotrauma (n = 590) was undertaken. The authors then developed a modified BIG algorithm for use at their institution and followed its implementation prospectively over 555 consecutive patients.

In the retrospective analysis, no patient in the BIG 1 category (n = 88, 14.9%) demonstrated progression or neurological decline, and 7.5% of BIG 2 patients (n = 107, 18.1%) demonstrated mild radiographic progression without any decline or need for additional neurosurgical or medical intervention, whereas 15.4% of BIG 3 patients (n = 395, 66.9%) underwent additional neurosurgical procedures. In the prospective analysis, no BIG 1 (n = 105, 18.9%) or BIG 2 (n = 48, 8.6%) patients demonstrated a clinical decline or required any further neurosurgical intervention. By contrast, 12.9% of BIG 3 patients (n = 402, 72%) required immediate neurosurgical intervention, and a further 2.0% required delayed intervention based on clinical and/or radiographic evidence of injury progression.

Application of the BIG criteria in a single large level 1 trauma center reliably sorted patients into appropriate risk categories that accurately guided ongoing management ¹⁾.

¹⁾

Ross M, Pang PS, Raslan AM, Selden NR, Cetas JS. External retrospective validation of Brain Injury Guidelines criteria and modified guidelines for improved care value in the management of patients with low-risk neurotrauma. J Neurosurg. 2019 Nov 8;1-6. doi: 10.3171/2019.6.JNS19584. [Epub ahead of print] PubMed PMID: 31703198.

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Last update: **2024/06/07 02:59**

