APACHE II Score

Estimates ICU mortality.

APACHE II is the most widely used ICU mortality prediction score. It differs from the original APACHE score in some ways; the number of variables is decreased and the weight of some of the variables is adjusted. APACHE III and APACHE IV scores were also developed but are not commonly used because their statistical method is under copyright control. The score was derived in a general ICU population and may be less precise when applied to specific populations such as liver failure or HIV patients. Since APACHE II was studied on patients newly admitted to the ICU, it is not accurate when dealing with patients transferred from another unit or another hospital. This is known as lead time bias and is addressed in APACHE III. The APACHE II score must be recalibrated before it can be used in a population other than the one it was derived in. ICU prediction scores in general need to be periodically recalibrated to reflect changes in practice and patient demographics.

http://www.mdcalc.com/apache-ii-score/

An APACHE II score of ≥ 25 at 1 h and SpO2 ≥ 96% at 1 day were strong predictors of disposition of patients to intensivists. These factors can help to objectively tailor pathways for post-extubation transition and rapidly allocate intensive care unit resources without sacrificing the quality of palliative care in the era of COVID-19. Trial registration The study was retrospectively registered. IRB No.: 202101929B0 [1].

A study of Li et al . from The Affiliated Hospital of North China University of Science and Technology, Tangshan, aimed to compare the value of acute physiologic and chronic health evaluation scoring systems (APACHE II and APACHE III) among patients with acute cerebral infarction.

The APACHE II and APACHE III scores were determined in 399 patients with acute cerebral infarction

within 24 h of admission in order to investigate their predictive value for prognosis in acute cerebral infarction. The area under the receiver operating characteristic was used to measure the ability of two scoring systems in predicting the prognosis of patients, and the area under the curve of the two scoring systems was compared.

The APACHE II and APACHE III scoring systems demonstrated good predictive value for prognosis in acute cerebral infarction, and the areas under the receiver operating characteristic were 0.808 and 0.818, respectively. There was no significant difference in the area under the curve between these two scoring systems.

Both the APACHE II and APACHE III scoring systems had good predictive value for prognosis in acute cerebral infarction, and there was no obvious difference between these two systems. Preference was suggested for APACHE II [2].

References

[1]
Zheng YC, Huang YM, Chen PY, Chiu HY, Wu HP, Chu CM, Chen WS, Kao YC, Lai CF, Shih NY, Lai CH. Prediction of survival time after terminal extubation: the balance between critical care unit utilization and hospice medicine in the COVID-19 pandemic era. Eur J Med Res. 2023 Jan 11;28(1):21. doi: 10.1186/s40001-022-00972-w. PMID: 36631882.

[2]
Li QX, Zhao XJ, Peng YB, Wang DL, Dong XL, Fan HY, Chen RY, Zhang J, Zhang L, Liu J. A Prospective Study of Comparing the Application of Two Generation Scoring Systems in Patients with Acute Cerebral Infarction. Adv Ther. 2019 Sep 28. doi: 10.1007/s12325-019-01084-4. [Epub ahead of print] PubMed PMID: 31564039.