

Usefulness of the Glasgow Coma Score in Survivors of Cardiac Arrest

To the Editor: In their Rational Clinical Examination article about predicting outcomes in comatose patients after cardiac resuscitation, Dr Booth and colleagues¹ frequently discussed the Glasgow Coma Scale and the Glasgow Coma Score. We have several concerns about how the authors represented these instruments.

The original Glasgow Coma Scale contained no numerical values and did not distinguish between flexion-withdrawal and decorticate flexion.² It therefore would have ranged from 3 to 14, had values been assigned. The Glasgow Coma Score, which the authors' Table 1 actually depicts, assigned numerical values to the scale and appeared in 1979.³ This ranges from 3 to 15, even in intubated patients. Teasdale and Jennett, who originated the scale, continue to maintain the distinction between the scale as a means to describe an individual patient and the score as a summary statistic or research tool and reaffirm that the score should be based on a total of 15.^{2,3}

There are several difficulties with using the scale and the score for intubated patients.^{2,3} Some have recommended giving "bonus" points to intubated patients with higher eye-opening and motor responses.⁴ However, even with such modifications the Glasgow Coma Score does not range from 2 to 10 as stated in Table 1, but from 3 to 15. Indeed, the published references in the authors' Table 4 that refer to a total score or a verbal response (authors' references 39, 40, and 41) use 3 as the minimum score value, implying a verbal score of 1 for even their intubated patients.

For research and statistical comparisons, the aggregate score from 3 to 15 is useful although many combinations of the 3 subscores can add up to the same total score. For the management of individual patients, as well as for research, stating the 3 separate components of the score would convey much more information than a simple summary score.

Zsolt T. Stockinger, MD
stockinger@surgery.tulane.edu
Department of Surgery
Tulane University Health Sciences Center and
The Charity Hospital of Louisiana in New Orleans

1. Booth CM, Boone RH, Tomlinson G, Detsky AS. Is this patient dead, vegetative, or severely neurologically impaired? assessing outcome for comatose survivors of cardiac arrest. *JAMA*. 2004;291:870-879.

2. Teasdale G, Jennett B. Assessment of coma and impaired consciousness. *Lancet*. 1974;2:81-84.

3. Teasdale G, Murray G, Parker L, Jennett B. Adding up the Glasgow Coma Score. *Acta Neurochir Suppl (Wien)*. 1979;28:13-16.

4. 24-Hour I.C.U. Trauma Score. Available at: http://www.sfar.org/scores2/ICU_trauma2.html#glasgow.

In Reply: Dr Stockinger clarifies the difference between the Glasgow Coma Scale as originally described by Teasdale and

Jennett¹ and its subsequent modification into the Glasgow Coma Score.² We agree that for intubated patients, it is most useful to describe the individual components of the Glasgow Coma Score rather than the total score. Unfortunately this is a limitation of the existing literature, for most primary studies in our review did not provide individual scores (ie, eyes, verbal, motor) but instead reported only the total score.

In our meta-analysis, we did not find the total Glasgow Coma Score to be useful in predicting outcome in comatose survivors of cardiac arrest. Accordingly, we do not recommend using this as a prognostic factor for this patient population. Rather, we suggested using individual physical findings (ie, absent withdrawal response to pain, absent corneal or pupil reflexes at 24 hours, and absent motor response at 72 hours), which we found to be accurate predictors of outcomes in comatose survivors of cardiac arrest.

Christopher M. Booth, MD
christopher.booth@utoronto.ca
Allan Detsky, MD, PhD
Department of Medicine
University of Toronto

1. Teasdale G, Jennett B. Assessment of coma and impaired consciousness. *Lancet*. 1974;2:81-84.

2. Teasdale G, Murray G, Parker L, Jennett B. Adding up the Glasgow Coma Score. *Acta Neurochir Suppl (Wien)*. 1979;28:13-16.

Risk of Contact Vaccinia From Immunization Sites

To the Editor: In their Brief Report of a tertiary contact vaccinia of a breastfeeding infant, Dr Garde and colleagues¹ correctly stated that "there is no [US Centers of Disease Control and Prevention] recommendation against vaccination of other family members when there is a breastfeeding infant in the home." It should be noted, however, that the initial Department of Defense (DoD) Smallpox Vaccination Program (SVP) memorandum from November 26, 2002, stated that "Minimizing close physical contact with infants less than one year of age

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