

# ` Quick Review of Model System Research

## Post-traumatic Confusional State:

## A Case Definition and Diagnostic Criteria

### What is the study about?

This project aims to develop a case definition and diagnostic criteria for post-traumatic confusional state (PTCS) following traumatic brain injury (TBI). The study describes clinical findings that establish a diagnosis of PTCS. Second, the study presents criteria for describing recovery from severe states of altered consciousness, such as coma, vegetative state and minimally conscious state (MCS).

The authors define criteria for emergence from PTCS. PTCS is characterized by deficits in attention, memory, orientation, and judgment, along with irritability, perceptual disturbances, and agitation. Related neurobehavioral features include emotional and behavioral disturbances, sleep-wake cycle disturbance, delusions, perceptual disturbances, and confabulation (filling gaps in memory with fabricated or distorted information). Some of these symptoms may be present after improvement from PTCS creating confusion about the extent of recovery. The Case Definition includes; (1) description of the core clinical features of PTCS  (2) associated features that may also be present during PTCS, (3) functional implications of PTCS, (4) criteria that exclude PTCS as the correct clinical diagnosis, (5) the lower boundary of functioning for persons in PTCS (defined as basic functional communication and meaningful environmental interactions), and (6) criteria for emergence from PTCS.

### What did the study find?

No current measure assesses the full range of core and additional neurobehavioral deficits seen in PTCS. Two existing measures that are closest to achieving this goal are the CAP and the DRS-98. The CAP includes a mixture of clinician rated items and objective cognitive tests. Although flawed, at this point, the authors concluded that the CAP is best existing measure to assess PTCS.

### Who participated in the study?

This project was completed by the Confusion Workgroup of the American Congress of Rehabilitation Medicine Brain Injury Interdisciplinary Special Interest group. Members represented a variety of specialists familiar with problems of altered consciousness.

### How was the study conducted?

This project conducted an exhaustive literature review of empirical evidence and consulted expert opinions from the workgroup. The workgroup reviewed 2,466 abstracts and pulled evidence from 44 articles. Agreement was reached through teleconferences, face-to-face meetings, and three rounds of modified Delphi voting. Delphi voting includes surveying a panel of experts through several rounds of questionnaires and structured group discussion to reach consensus about findings.

### How can people use the results?

### Individuals with TBI and their families can use the results of this article to better understand the signs of recovery from coma, vegetative state and MCS. Practitioners can use the results of this article to learn more about the new PTCS case definition and diagnostic criteria. Additionally, practitioners can use this information to develop a measure(s) that can fully encompass the wide range of PTCS signs and symptoms.

### Reference

Sherer, M., Katz, D. I., Bodien, Y. G., Arciniegas, D. B., Block, C., Blum, S.,...Yablon, S. A. (2020). Post-traumatic confusional state: A case definition and diagnostic criteria. *Archives of Physical Medicine and Rehabilitation* *101,* 2041-2050.

**Disclaimer**

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