

# CLINICAL IDENTIFICATION OF PATIENTS WITH COVERT AWARENESS

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## Background and Aims

Covert consciousness is a state of residual consciousness after a severe brain injury or neurological disorder that represents a diagnostic challenge in routine clinical practice and research. It is mandatory to improve the clinical ability to identify those patients with suspected covert cognition and those who would benefit from complementary functional studies for diagnostic and prognostic purposes. Objective: To investigate the relationship between the number of subtle neurological signs indicative of covert cognition as measured by the Motor Behavior Tool - revised (MBT-r) scale with the severity of the disorder of consciousness as measured by the traditional score and with the additional index of the Simplified Evaluation of Consciousness Disorders (SECONDS) scale.

## Methods

Twenty-nine subjects with chronic disorders of consciousness secondary to brain injury acquired in the context of inpatient rehabilitation were included. Multivariate linear regression analysis was performed to evaluate the association of the MBT-r score (independent) with the traditional score and the additional SECONDS index (dependent), correcting for age.

## Results

The regression equation was statistically significant  $F(1,20)=16.994, p<.001$ . The  $R^2$  value was .46, indicating that 46% of the change in MBT-r score can be explained by the regression model including the additional SECONDS index. The regression equation was  $-0.35 + .13^* (\text{Additional Index})$ , where the MBT-r score increases .13 for each point of the additional SECONDS index.

## Conclusion

Our findings show that the MBT-r designed to capture clinically relevant aspects related to clinical suspicion of masked awareness correlates with the SECONDS Additional Index which was designed to document subtle clinical changes even in the same diagnostic category.

**Keywords:** consciousness, injury, assessment, scale, SECONDS