

## Is the Neurobehavioral Symptom Inventory (NSI) a Good Outcome Measure? A Chronic Effects of Neurotrauma Consortium (CENC) and VA TBI Model System Study

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The Neurobehavioral Symptom Inventory (NSI) is a self-report measure of postconcussion symptom severity (PCS) used within the Veterans Health Administration (VHA) as an outcome measure. There are no studies of its utility as an outcome measure. The purpose of this study was to examine whether change on the NSI from baseline to one year follow-up is related to meaningful functional change, as measured by the Functional Independence Measure (FIM) at approximately the same time points. The sample (N=168) consisted of individuals participating in acute TBI rehabilitation (mean age = 34; on average less than 1 month post-injury; 10% mild TBI). Receiver Operating Characteristics Curve (ROC) analyses were conducted on the sample, with 106 TBI patients demonstrating meaningful change on the FIM from baseline to follow-up at one year (an improvement of at least 22 points per Beninato et al., 2006) and 62 TBI patients with no meaningful change. These analyses suggested that changes in NSI are not predictive of meaningful functional change on the FIM (AUC=0.49,  $p>.87$ ). Correlational analyses suggested that changes in NSI are most tied to psychological variables and generally not significantly related to other outcome measures (like participation, degree of disability, or global outcome). Given these findings, and that prior research has called into question the utility of the “postconcussion syndrome” construct in general, the utility of the NSI as an outcome measure is in question.