The Traumatic Injuries Distress Scale

What is it?

The TIDS is a 12-item self-report questionnaire intended to quantify the magnitude of distress experienced as a result of recent musculoskeletal trauma. It is intended to be administered between 2 days and 4 weeks following an injury. It provides a single overall summative score that can be used to predict the likelihood of recovery over the next 6 to 12 months. The TIDS can also provide scores on 3 subscales to hep clinicians better understand why the patient is at risk. These subscales are 1) uncontrolled pain, 2) negative affect, and 3) intrusion/hyperarousal. Each of those subscales should then lead to different treatment priorities (e.g. pain management or self-efficacy, cognitive or psychologically-informed intervention, and stress reduction and management techniques, respectively).

How was it developed?

The TIDS was one of the primary tools developed during the doctoral thesis studies of Western University researcher Dr. David Walton. It was developed through a rigorous process that included item generation with practicing rehabilitation clinicians including physical therapy, psychologists, physical medicine physicians, and researchers with expertise in measurement and epidemiology. Over 100 items were initially tested for their ability to predict outcomes following trauma in 95 patients with acute traumatic neck pain (i.e. 'whiplash associated disorder'). Most items were excluded as a result of not being able to predict outcome or not being deemed modifiable by the consultants. Some other items were parceled out to form other independent scales, including the upcoming Multidimensional Symptom Index (described separately). The results of this preliminary work yielded a prototype version of the TIDS that was 17 items long. The prototype was then tested on a new sample of 76 people with mixed types of MSK trauma. The results led to the tool being reduced to 12 items that were determined to be the most important and psychometrically sound for the purposes of predicting outcomes. That study was reported [here](.). In a follow-up study of 120 people with mixed acute injuries (mostly traumatic neck pain), important cut scores were identified to improve clinical utility of the TIDS for decision making purposes.

What are the cut scores and how accurate is it?

For interpreting the overall TIDS score (highest possible score is 24), a total score of 3 or under has been identified as best for identifying low risk people, while those scoring 10 or higher are most useful for identifying high risk patients. This results in 3 different subgroups: low risk (≤ 3), moderate or unknown risk (4 to 9), and higher risk (≥ 10), and has accurately classified the low/high risk people 87.2% of the time using those cut scores. The positive likelihood ratio for the cut score of 13 is 4.44, meaning a 4.44-fold shift in likelihood of being in the non-recovered group 6 months later. The negative likelihood ratio for a score of 6 or less is 0.20, meaning a 5-fold reduction (1/0.20) in the likelihood of being in the non-recovered group 6 months later. Only 37% of our initial cohort scored in the 'moderate/unknown' group, meaning 63% were classed as low or high risk. For even greater accuracy you can look at the subscale scores: those who score 0 or 1 on *both* the Uncontrolled Pain *and* Negative Affect scales were 95% likely to be in the rapid recovery/low risk group, while those that scored 4 out of 8 or greater on the Uncontrolled Pain *and* 3 out of 12 or greater on the Negative Affect subscales (regardless of overall summed score) were 84% likely to NOT be in the rapid recovery/low risk group. The remainders require further clinical workup to predict outcomes more confidently.

How to score

Sum the response to each item (0, 1 or 2) for a single overall score. Sum the subscales as follows:

Subscale	Items
Uncontrolled Pain /8	2, 3, 6, 8
Negative Affect /12	1, 7, 9, 10, 11, 12
Intrusion / Hyperarousal /4	4, 5

Where to find it

You can download the TIDS in pdf form here. The TIDS is now also included as an optional scale in the *Focus on Therapeutic Outcomes* (FOTO) online outcomes management database.

What languages are available?

The TIDS is currently available in English, French-Canadian and Spanish versions.

How should it be cited?

The TIDS is free for use for individuals and non-industry sponsored researchers. It should be cited as:

Walton DM, Krebs D, Moulden D, Wade P, Levesque L, Elliott J, MacDermid JC. *The Traumatic Injuries Distress Scale: a new tool that quantifies distress and has predictive validity with patient-reported outcomes*. Journal of Orthopedic and Sports Physical Therapy, 2016, 46(10):920-928.