

# Neurocognitive impairment: Feigned, exaggerated, or real?

## Symptom validity testing helps detect embellishment by patients with brain injury

**M**rs. M, age 27, suffered a head injury in a motor vehicle accident 9 months ago. She is referred to you by a neurologist with complaints of persistent headache and difficulties with memory and attention “worse now than right after the accident.” She tried to return to work 3 months after the accident but could not concentrate enough to be productive.

Review of medical records shows that she had minimal, if any, loss of consciousness at the accident scene, and she followed commands at the emergency room without apparent difficulty. Neurologic exam and head CT were normal. She is cooperative and fully oriented but appears upset about the difficulties she has experienced and occasionally complains of headache.

Three days later you receive a signed release of information from her attorney, requesting all records related to her examination.

In cases such as Mrs. M’s, the differential diagnosis often comes down to a somatoform disorder vs factitious disorder vs malingering, a decision that rarely seems as clear-cut as one might believe when reading the DSM-IV-TR. Particularly in litigation- or compensation-related situations, clinicians must make 2 fundamental judgments:

- Is the patient intentionally generating the symptoms?
- Are the symptoms plausibly related to neurologic injury or illness?

This article describes how symptom validity testing (SVT) as part of a comprehensive neuropsychological



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## Neurocognitive deficits

### Clinical Point

The absence of neurologic findings other than impaired cognition is not proof that a disorder is driven by psychiatric issues

**Table 1**

## Performance consistencies in patients who fail symptom validity testing (SVT)

Consistency	Comment
25% to 40% of patients seeking some form of compensation for their injuries or illness fail SVT	This appears to hold true not only for 'brain' cases but also for 'pain' cases
Deficits are not exaggerated in a constant manner across tests of different abilities	Deficits most likely to be exaggerated are concentration, memory, weakness, and processing speed; may be due to assumptions about what 'brain damage' looks like
Patients failing SVT report greater levels of emotional distress, psychological maladjustment, and severity of neurocognitive difficulties on self-report measures	Patterns of exaggerated responses are not the same as those exaggerating psychopathology
Very few patients who fail SVT score significantly below chance	Below-chance responding is an insensitive criterion for identifying suboptimal effort, but this level of performance is quite specific; short of confession, below-chance performance on SVT is closest to an evidentiary 'gold standard' for malingering
Not all SVTs are created equal	Sensitivity and specificity vary, and measures may disagree when more than one is administered
Coaching makes a difference	Malingering subjects who are told which tests to look for and how to approach them are more difficult to discriminate from genuine patients
Invalid effort does not rule out a genuine neurologic injury or illness	Exaggeration can coexist with neurologically driven neurocognitive deficits; neuropsychologists who do forensic work encounter patients with documented injuries who fail SVT, sometimes in blatantly obvious or absurd ways

**Source:** References 1-13

evaluation can help answer these questions. Inconsistencies in the way patients perform on SVT (*Table 1*)<sup>18-30</sup> can provide "red flags" to possible embellishment of neurocognitive symptoms. We also offer recently developed guidelines for diagnosing malingering of neurocognitive dysfunction that may be more helpful than the DSM-IV-TR criteria.

### Why 'gut feelings' are fallible

Differential diagnosis of neurocognitive impairment is challenging. Some patients have normal neurologic examinations in all respects but cognition, such as those with early Alzheimer's disease or recent concussion. Others may show significant neurobehavioral changes but

normal results on neuroimaging (such as the rare patient in a coma after a traumatic brain injury whose head CT is read as normal). Thus, the absence of findings other than impaired cognition in a neurologic exam is not proof that a disorder is driven primarily by psychiatric or behavioral issues.

On the other hand, patient descriptions of the pattern and severity of neurocognitive impairment are far more tightly linked to their distress than to objectively quantified severity of the deficits.<sup>14-16</sup> Likewise, health care professionals overestimate their ability to differentiate embellished from genuine symptoms.<sup>17,18</sup> Clinicians typically:

- rely on their training and intuition
- refer for psychological evaluation

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A patient who is motivated to perform poorly on SVTs will often perform more poorly on recognition tasks relative to norms

### 3 ways to measure patient effort

Using SVT is the most effective way to determine the validity of a patient's effort on a neuropsychological test battery. SVT using 3 approaches has been shown to reliably discriminate patients who are putting forth valid effort from those who are not:

- forced-choice testing
- unusual patterns of responses within established neurocognitive tests
- unusual patterns of variability on the same test given on different occasions.

**Forced-choice testing.** Recognition memory tasks are nearly always easier than recall tasks, whether or not the person being tested has suffered a brain injury. However, someone who is motivated to perform poorly will often perform more poorly on recognition tasks relative to norms because he or she assumes this is how true cognitive impairment appears.

On some validated forced-choice SVTs, patients with moderate to severe traumatic brain injuries perform at  $\geq 90\%$  accuracy; thus, a far lower performance from a mildly injured patient raises a red flag that something exceptional is occurring that demands an explanation.

**Patterns within established tests.** As empiric evidence about SVTs grows, we understand more about how neurologically impaired patients perform—and do not perform—on these tests. These patterns can then be used to examine the extent to which they discriminate between patients who are exaggerating and those who are not. Cross-validated techniques are available for the Wechsler Adult Intelligence Scale, 3<sup>rd</sup> Edition, and the California Verbal Learning Test, among others.<sup>25,26</sup>

**Patterns across different evaluations.** Variation in test results is expected when a patient takes the same test on different dates. Along with having previously seen the test, other patient factors may include fatigue or inattention. When a patient is recovering from a brain injury or illness, additional variation is expected because of recovery or progression over time.

Some abilities—and test scores—are more stable than others, however, even in patients with genuine neurologic damage. At least one method that analyzes data from different administrations of the Halstead Reitan Neuropsychological Battery uses this insight,<sup>27</sup> although this method has yet to be cross-validated.

### What have we learned?

Cross-validated techniques have demonstrated that effort has a significant effect on neurocognitive test scores, often greater than the effect of the neurologic condition being studied.<sup>28,29</sup> For example, you will be more accurate predicting a patient's overall performance on a neuropsychological test battery on the basis of their performance on the Word Memory Test (one type of SVT) than on how long he or she was in a coma after a head injury until the coma has persisted for  $>6$  days.<sup>30</sup>

Patients who fail SVT also show consistencies in performance on neurocognitive test batteries (*Table, page 20*).<sup>1-13</sup>

**SVTs are not 'malingering tests.'** A malingering patient simulates or exaggerates symptoms with the conscious intention of deceiving someone. An SVT does a good job identifying exaggerated symptoms, but it has little (and, in most cases, nothing) to say about the extent to which this exaggeration is conscious or intentional.

For instance, patients with somatoform disorders tend to fail SVT at a higher rate than general medical populations.<sup>6,31</sup> Our group<sup>32</sup> recently reported that approximately one-half of patients diagnosed with psychogenic nonepileptic seizures at an epilepsy center fail SVTs. It is unlikely, however, that all—or even most—of these patients were malingering.

SVTs do not reveal motivation or intention—they merely state the extent to which the effort put into testing provides a valid estimate of neurocognitive function.

Judging intention always will be problematic, but recent work provides a framework to consider intention in patients with cognitive complaints. DSM-IV-TR criteria for malingering were formulated with psy-



chiatric symptoms in mind, and thus are not as helpful in these situations.

Alternative guidelines have been suggested to guide decisions about when to diagnose a patient as malingering neurocognitive deficits.<sup>33</sup> See the original publication for a full explication of the criteria.

## Clinical recommendations

Particularly when someone with a mild brain injury is seeking compensation, keep in mind that 25% to 40% of these patients perform in such a way on SVT that the validity of their cognitive performances should be questioned. It does not necessarily mean they are malingering; rather, they are performing in a way that cannot be explained by established brain-behavior relationships in the absence of obvious severe neurologic injury or illness.

A patient who suffered a mild brain injury 6 months ago yet scores 5 standard deviations below a carefully defined group of patients who suffered severe brain injuries is the neurocognitive equivalent of a seizure characterized primarily by pelvic thrusting. The performance does not mean the patient is not in need of some care, but it does mean that at least part of the patient's presentation is being driven by psychological or behavioral issues.

Ask for SVT when you refer cases such as this for neuropsychological or psychological evaluation. SVT can provide an empirically based foundation on which to formulate an opinion, particularly about the severity of reported cognitive symptoms. Your opinion about the intentionality of symptoms likely will rely primarily on other information (such as the consistency of complaints with behavior during the assessment or presence of primary or secondary gain), but SVT provides a valuable tool with which to examine the validity of cognitive complaints.

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## Clinical Point

Effort has a significant effect on neurocognitive test scores, often greater than that of the neurocognitive condition itself



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### Clinical Point

SVTs do not determine the extent to which the exaggeration of symptoms is conscious or intentional

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## Bottom Line

Determining the cause of medically unexplained symptoms requires judgments about symptom severity and intentionality. Symptom validity testing (SVT) can effectively assess whether you can trust a given patient's cognitive presentation. Ask for SVT when you refer questionable cases for neuropsychological or psychological assessment, particularly when a patient with a mild brain injury is seeking compensation.

### Related Resources

- Slick DJ, Sherman EMS, Iverson GL. Diagnostic criteria for malingering cognitive dysfunction: proposed standards for clinical practice and research. *Clin Neuropsychol* 1999;13:545-61.
- National Academy of Neuropsychology. Position paper: Symptom validity testing: practice issues and medical necessity. <http://nanonline.org/paio/svt.shtm>.

### Disclosure

The author reports no financial relationship with any company whose products are mentioned in this article or with manufacturers of competing products.