

# The T.O.V.A. Times

## ***Substance Abuse and the T.O.V.A.***

"Ron", age 31, had a significant substance abuse history since the age of 17, with two brief, unsuccessful attempts at treatment. His past medical history included long-standing mild to moderate depressive and obsessive-compulsive (OC)

symptoms. He was an above average student and obtained a master's degree in a health care field in which he has successfully functioned. However, in the past two years his drug use (primarily marijuana and alcohol) became increasingly problematic, and his wife insisted that he obtain treatment. Ron drank six-to-eight cups of coffee and smoked a pack and a half of cigarettes daily.



Upon admission to a chemical dependency treatment facility, he was administered an ADHD symptom checklist and the T.O.V.A. as part of the routine admission battery. The admission symptom checklists (administered himself and, a couple of weeks later, by a staff member) were compatible with an attention disorder, and he reported that his rated attention, distractibility, and task completion problems were present for "years". Ron thought that "a little" marijuana helped him just as much as coffee did, and without the "coffee jitters". There was no history of a traumatic brain injury.

His admission T.O.V.A. test was administered at 8 AM, so that he was able to limit caffeine (one cup) and nicotine (one cigarette) use that morning. (A sudden withdrawal of either substance could negatively affect the T.O.V.A.)

### **Ron's Standard Scores for the Admission T.O.V.A.**

<b>Variable</b>	<b>Quarter 1</b>	<b>Quarter 2</b>	<b>Quarter 3</b>	<b>Quarter 4</b>
Response Time Variability	41*	76*	46*	88
Response Time	51*	76*	62*	79*
Commission Errors	101	95	101	99
Omission Errors	84b	98	81b	101

\* = Significantly deviant from the norm

b = Borderline

**In This Issue**

- Substance Abuse and the T.O.V.A.
- Treatment
- Case Commentary
- Symptom Exaggeration Index

**Attention Score: -2.10****Symptom Exaggeration Index: 0**

Clearly, the overall Attention Score of -2.10 and his performance were compatible with an attention disorder such as ADHD. The Symptom Exaggeration Index score was 0, confirming the clinician's impression that Ron was not exaggerating his symptoms. It was clear that Ron was unable to maintain consistent processing speed (Response Time Variability), adequate processing speed (Response Time), and attention (Omission Errors), especially in quarters 1 and 3. This could be indicative of anxiety when he began the test (even though he'd completed the practice session) and when the test condition changed without warning from the stimulus infrequent to stimulus frequent condition in the beginning of quarter 3. Response Time Variability, Response Time, and Omission Errors were best in quarter 4. This could mean that he does better with faster paced, more stimulating tasks (second half) than slow, boring ones (first half). Note also that his Response Time was always significantly slow, which may indicate depression.

**Treatment**

A rather animated discussion then took place among the medical staff members between those who favored prescribing an antidepressant and those who favored a psychostimulant. The former argued that a psychostimulant shouldn't be prescribed for substance abusers for obvious reasons (e.g. abuse potential), and the latter argued that a low dose of a long-acting psychostimulant -- such as Concerta, Daytrana (a patch), or Vyvanse (a prodrug) -- would more effectively treat the ADHD than an antidepressant and have beneficial effects on the depression and, possibly, the OC symptoms. It was decided to conduct a T.O.V.A. medication challenge test with Concerta.

**Ron's Total Standard Scores for the Medication Challenge T.O.V.A. (2.5 Hours After 18 mg of Concerta)**

Response Time Variability	132
Response Time	128
Commission Errors	103
Omission Errors	101

**Attention Score: +2.11**

His performance and his Attention Score on medication were not only within normal limits but were considerably better than average. With these results the medical staff began a four-week clinical trial of 18 mg of Concerta each morning. However, after a week, Ron reported having "coffee jitters". He was gradually "decaffeinated" (and nicotine use was reduced), and the side effect disappeared.

After the four weeks, a second on-medication T.O.V.A. was administered, and Ron's performance was very similar to that of the original medication challenge test. Also, his symptom behavior self-rating was considerably better, and his OC behaviors and depressive symptoms had diminished. Therefore, treatment with Concerta was continued. He successfully finished the in-patient treatment program.

## **Case Commentary**

Ron's story is typical of many intelligent and hardworking persons whose attention disorder is not evident in childhood -- since he wasn't hyperactive or bothering others -- nor even in the early adult years, when his obsessive-compulsive traits enabled him to be successful in school and in his profession. In essence, his attention disorder was "covered up" or hidden by the overlying substance use disorder (SUD), OCD, and depressive symptoms. If the SUD admission workup hadn't included the behavior ratings and the T.O.V.A., the diagnosis of his underlying ADHD would probably not have been made. Since the incidence of attention disorders in substance abusing individuals (15-25%) is significantly higher than in the general population (5-6%), routine screening is warranted.

## **Symptom Exaggeration Index**

The Symptom Exaggeration Index (SEI) is a new and exclusive T.O.V.A. feature. Given the incidence of symptom exaggeration and malingering in college age students and other adults (as many as 50% of those who self-refer for help), we believe that it is imperative to use the SEI to validate symptoms as well as to address the issue of malingering with your patients.

Want to know more about the SEI? [Click here to download the T.O.V.A. SEI worksheet from our website.](#)

## ***Want More Information?***

[Clinical Support](#)

[Research & Education](#)

[Learn More about the T.O.V.A.](#)

## **Contact Us**

[\*\*http://www.tovatest.com\*\*](http://www.tovatest.com)