

The T.O.V.A. Times



In This Issue

- Welcome Letter
- Case of the Month
- The ADHD Score
- Frequently Asked Questions
- The T.O.V.A. Referral Network

Welcome!

Since you are receiving this newsletter, you already are using the most researched and accurate measure of attention available. The T.O.V.A. Times is a way for us at The TOVA Company to inform you of topics pertinent to your use and understanding of the T.O.V.A.

In each newsletter we plan to present a T.O.V.A. teaching case to illustrate how protocols are interpreted and their clinical implications. For a more comprehensive overview, please see "[A Guide to Clinical Interpretation of the Test of Variables of Attention \(T.O.V.A.™\)](#)" on our website.

This is only one part of our ongoing effort to provide unmatched customer service that also includes free clinical and technical support. Our intention is to continue to lead the way and keep you current, providing free upgrades that respond to increasing understanding of attention, changing hardware, and expanding norm bases. We are working hard to make our website a place to go for current information to help keep you on the leading edge of work with attention disorders.

As a T.O.V.A. user, we encourage you to contact us at any time with questions or suggestions for how we might better meet your needs in your use of the T.O.V.A.

Sincerely,
Carol Kindschi, RN, MSN
CEO, The TOVA Company

Lawrence Greenberg, MD
Author of the T.O.V.A.
President of the Board of Directors

T.O.V.A.™ Case of the Month: Case 03-001

The recent diagnosis of ADHD for this 49 years old woman was based on history, behavior ratings, and symptom behavior ratings. She had been referred after her grandson was diagnosed as having ADHD, Inattentive Type. As she reported, “He’s just like me.”

Session #1- Baseline (Standard Scores)

| | Quarter 1 | Quarter 2 | Quarter 3 | Quarter 4 |
|---------------------------|-----------|-----------|-----------|-----------|
| Response Time Variability | 95 | 85 | 71* | 70* |
| Response Time | 93 | 95 | 110 | 104 |
| d' | 75* | 60* | 47* | 56* |
| Commission Errors | 106 | 98 | 51* | <40* |
| Omission Errors | 70* | 85 | 42* | 85 |

ADHD Score: -5.76*

* significantly deviant

Response Time Variability (RTV), a measure of response time consistency, declines from normal in quarter 1 to quarter 3 when it becomes significantly deviant (highly variable). Response Time (RT), a measure of processing and responding speed, is normal in quarters 1 and 2 (Half 1) and improves (gets faster) in quarters 3 and 4 (Half 2). d' (a measure of performance decrement) is significantly deviant (high) in all four quarters. Commission Errors (a measure of impulsivity) become significantly deviant (higher) in quarter 3 and worse in quarter 4. Omission Errors (a measure of inattention/distractibility) are significantly deviant (high) in quarters 1 and 3.

Impression: The baseline (no medication) test results and the ADHD Score (-5.76) are significantly deviant from the norm and compatible with an attention disorder, including ADHD.

Comments: Variability and Commissions are significantly worse in the more stimulating Half 2 than in the more boring Half 1. (Clinical implication: She may do better in less stimulating [less distracting?], less “driven” settings.) Paradoxically, she speeds up (Response Time gets faster) in Half 2 even though she recognizes that she’s making many Commission Errors. (Clinical implication: She might need help learning more restraint.) The high Omissions in quarters 1 and 3 (the beginnings of each test condition) might reflect some (test) anxiety until she “settles down”.

Session #2- 2.5 hours after challenge dose of 18 mg Concerta (Standard Scores)

| | Quarter 1 | Quarter 2 | Quarter 3 | Quarter 4 |
|---------------------------|-----------|-----------|-----------|-----------|
| Response Time Variability | 100 | 105 | 85 | 105 |
| Response Time | 110 | 112 | 125 | 128 |
| d' | 87 | 88 | 75* | 74* |
| Commission Errors | 100 | 98 | 76* | 69* |
| Omission Errors | 100 | 100 | 102 | 100 |

ADHD Score: -1.41

* significantly deviant

Impression: Significant improvement. Variability gets a bit shaky at the beginning of Half 2 but soon improves. Response Time is fine although, again, she’s too fast and makes some (but fewer) Commission Errors in Half 2. d' improves significantly (and probably will normalize after some weeks of treatment). There are no Omission Errors. The ADHD Score improved dramatically from -5.76 to -1.41.

Comments: If all the variables had normalized, we’ve got the right dose for a clinical trial. However, when Response Time speeds up appreciably, Commission Errors may improve but not normalize. It may take some weeks for the person to “adjust” to the more rapid processing with medication. Assuming no side effects, the dose can be continued for 3-4 weeks after which an interim assessment, including an on-medication T.O.V.A., can be obtained to determine the effectiveness of the medication. Assuming that the medication is working well, she should be reassessed in six months. (Note: If some variables had worsened, we’d retest with a lower dose even if some variables had improved.)

The ADHD Score in the T.O.V.A. Interpretation Report

The T.O.V.A. Interpretation (Form 1 of the T.O.V.A. Report) contains two summary statements.

The first summary is based on a comparison of all of the T.O.V.A. variables to normative data for age and gender and interprets the subject's performance as within normal limits or significantly deviant from the norm. If significantly deviant from the norm, the results are interpreted as suggestive of an attention disorder.

In contrast, the ADHD Score (a "cutoff" score consisting of the three most predictive variables) tells us whether the subject's performance is or is not similar to the T.O.V.A. performances of an independently diagnosed group of persons with ADHD.

ADHD Scores ≤ -1.80 (that is, -1.80 or more negative [like -1.81]) are similar to the scores of persons with ADHD and are suggestive of ADHD.

ADHD Scores > -1.80 (that is, -1.79 or more positive) are not typical of persons with ADHD. They are interpreted as "inconclusive" and are not clinically relevant. An inconclusive Score does not necessarily mean normal. Persons with "inconclusive" Scores may or may not have an attention disorder.

If either one or both of the summaries are significant, the Interpretation Report characterizes the performance as suggestive of an attention disorder.

It is important to remember that the T.O.V.A. doesn't diagnose ADHD- a clinician makes the diagnosis that is based on all of the available data, including history, behavior ratings, symptom checklists, and the T.O.V.A.

Frequently Asked Questions

Look to this space in future newsletters for answers to other frequently asked questions about the T.O.V.A.

How does the T.O.V.A. compare to other CPTs?

Accuracy: By using an external measuring device (the T.O.V.A. Microswitch) and precision testing environment (PTE), the T.O.V.A. controls measurements and timing with ± 1 ms accuracy.

Duration: Research shows many individuals with attention problems can process information normally for 10-15 minutes and then experience difficulty. The T.O.V.A. is the only CPT that measures attention variables for a full 21.6 minutes for 6+ year olds. T.O.V.A. keeps the task long and boring.

Stimuli: Unlike other commercially available CPTs that use numbers or letters, the visual T.O.V.A. uses two geometric shapes, and the auditory T.O.V.A.-A. uses two distinct notes so that language and learning disabilities do not interfere.

Simple task: Unlike most CPTs that use complex tasks that are influenced by learning or working memory, the T.O.V.A. uses a simple go/no-go task to obtain an objective measure of sustained attention.

Referral Network

Would you like free referrals?

Whenever inquiries about T.O.V.A. testing arise for your area, if you are in the T.O.V.A. Referral Network, then we can refer clients directly to you.

Is one of your clients moving? Find a provider in their new location by using the T.O.V.A. Referral Network.

Join the T.O.V.A. Referral Network today. Just fill out the form at www.tovatest.com.

Call 1-800-REF-TOVA for all your referral needs.