

DISCLAIMER

The information contained within this document does not constitute medical advice or diagnosis and is intended for education and information purposes only. It was current at the time of publication and every effort is made to keep the document up to date.

The information contained herein includes both psychological and non psychological interventions. The delivery of psychological services requires a medical referral whilst non psychological services do not.

Each person is an individual and has a unique psychological profile, biochemistry, developmental and social history. As such, advice will not be given over the internet and recommendations and interventions within this website cannot be taken as a substitute for a thorough medical or allied health professional assessment or diagnosis.

Test Of Variables of Attention (TOVA) Screening for ADD / ADHD

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CURRENT ADHD SCREENING PROCEDURES

Attention deficit disorders, which occur in 4-5% of school age children and 2-2.5% of adults, are usually diagnosed only in children who have been referred because of their hyperactivity. However, half of all children (and virtually all adults) with attention deficit are not hyperactive.

Until now, it has been difficult to achieve adequate screening for ADHD, because traditional screening procedures are subjective, time consuming and expensive. Diagnosis has not been easy, particularly with the current subjective and non-specific criteria of the DSM-IV. It is not surprising that many U.S. children receiving medication and later referred to specialist ADD clinics actually had no attention deficit.

Continuous performance tests (CPT's) are increasingly being used by clinicians to help diagnose and monitor the treatment of attention problems. These tests measure, more or less reliably, certain behaviours and psychophysiologic responses that correlate with the diagnosis of attention deficit disorders and /or correspond to the construct of an attention deficit.

Research indicates that people with ADHD display difficulties most dramatically in situations requiring sustained attention to dull, boring and repetitive tasks. The T.O.V.A. provides such a task, measures responses and compares them to age norms.

The T.O.V.A. was developed by Dr Greenberg, an authority on hyperactivity and ADD, and a leader in the field for the past 25 years. Currently a Professor of Psychiatry, Dr Greenberg was formerly the Head of the Division of Child & Adolescent Psychiatry at the University of Minnesota.

T.O.V.A.

The T.O.V.A is a 22.5 minute computerised assessment (visual or auditory) which in conjunction with teacher and parent behaviour rating scales, is a highly effective screening tool for ADD. It is non language based (to differentiate ADD from learning disorders), requires no left-right discrimination, and has negligible practice effects.

In contrast to other (CPT's), the T.O.V.A has a number of innovative features. These are:

1. The visual form uses nonsequential, monochromatic, simple geometric stimuli to minimise the effects of cultural differences and learning problems;
2. It contains two test conditions: target infrequent and target frequent. In the first half of the test (target infrequent) the target : nontarget ratio is 1:3:5 (i.e. a target is presented randomly) only once every 3:5 nontarget presentations. This half is therefore boring and fatiguing, and the subject must pay close attention to respond to the infrequent target correctly. When a subject does not respond to the target, it is called an error of omission and is a measure of inattention.

In the second half (target frequent), the target : nontarget ratio is 3:5:1 (i.e. 3.5 targets are presented for every 1 nontarget. In this half, the subject expects to respond most of the time and must occasionally inhibit the tendency to respond. When a subject responds to the nontarget, it is called an error of commission and is a measure of impulsivity. Thus the ability to pay attention to a boring, repetitive task is best measured in the first half, while the ability to inhibit oneself is best measured in the second half of the test;

3. A specially designed microswitch with an insignificant error of measurement (10 msec) minimises muscle fatigue;
4. The duration of the test (22.5 min) identifies those who are older and more intelligent and who can compensate for mild or moderate attention problems for 5, 10, or even 15 minutes. A shorter eleven minute version for 4 to 5 years olds is also available;
5. The use of a 2.5 minute practice test, minimises practice effects and the T.O.V.A. can be used for serial measurements;
6. Extensive norming base (1500 normals, ages 4-90+) takes into account gender and age differences;
7. Measures 7 variables of ADIID
8. Analyses of results quarter by quarter

ADMINISTRATION OF THE TEST

The test resembles a computer game. Whenever the "correct" stimulus is presented, the subject presses a specially designed, sensitive "firing" button. Reactions are recorded for computerised interpretation later.

Variables measured include:

- errors of omission (inattention)
- errors of commission (impulsivity or disinhibition) reaction time variability of reaction time
- post-commission reaction time anticipatory responses multiple responses

The report includes an easy to read chart of; raw scores with section breakdown and percentages fully calculated, a chart of standard scores and standard deviations, a graph of results, interpretation and interpretation notes.

RELIABILITY

In a discriminant analysis of the T.O.V.A. an(r10-item Conners Parent-Teacher Questionnaire of hyperactive children with ADD and matched (age, sex) normals, the T.O.V.A. correctly classified 87% of normal and 90% of ADHD subjects, with 13% false positives and 10% false negatives. A similar study of children without hyperactivity correctly classified 83% of normal's and 79% of children with ADHD.

CLINICAL USE OF THE T.O.V.A.

as a measure of attention in neurological injuries and disorders
as a diagnostic tool, as part of a multifaceted, multi-disciplinary assessment of children, adolescents and adults who may have an attention deficit
as a tool to predict response to medication and to determine optimum dosage to monitor the patient's reaction to medication and other treatments over time
Although the T.O.V.A. is relatively new to Australia, it is nevertheless a well established clinical instrument and is being used in over 400 clinical settings and in 45 research projects in the U.S.A.

OTHER SERVICES

An individual may require a comprehensive psycho-educational assessment or behavioural therapy, including liaison with the school. In the case of a negative ADD result, diagnostic testing for Oppositional Defiant Disorder, Conduct Disorder, Separation Anxiety Disorder, Overanxious Disorder, Major Depressive Episode or Dysthymia, may be necessary.

For more information or to make an appointment please contact us on (02) 9637 9998 during business hours.