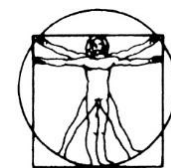


Behavioral Medicine P.C.



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COGNITIVE PERFORMANCE TESTING

Cognitive performance testing utilized at BMPC is developed by Newmind Technologies. The Cognitive Performance Testing (CPT) process is typically divided into two sessions. In the first session we will evaluate and gather a baseline for cognitive abilities including Attention, Short-Term Memory, Auditory Short-Term Memory, Working Memory, Auditory Working Memory, and Sequential Memory. On the second day we will gather a baseline for cognitive abilities including list Acquisition, Filtering, Episodic Memory, Executive Functioning and Spatial Sorting. A Patient's scores will be classified as Below Average, Average, or Above Average. We will repeat these CPT following approximately 35-45 sessions of neurofeedback.

ATTENTION

Overview:

This test measures the ability to pay attention, to select a pattern or process in your environment and follow it over time. This is a fundamental skill that any individual must learn in order to locate and identify resources and information that can be used immediately or in the future in order to meet various bio-psycho-social needs in order to remain safe, secure and thrive.

Instructions for Practice Test:

- Images are displayed on screen for 7 minutes
- (5 minutes if under 13 years old)
- Hit the space bar, as fast as possible, when the down arrow (TARGET image) is displayed.
- (Alternatively, the image can be touched or clicked)
- **TARGET Image**



SHORT TERM MEMORY

Overview:

This test measures the capacity for holding a small amount of visual information in mind in an active, readily available state for a short period of time. This ability is crucial to every aspect of social performance. It includes the ability to remember phone numbers, addresses, new rules in a math exercise or aspects of a new task, or what was just said in a conversation. Individuals with problems in this area may notice especially that they have difficulty following conversations and instructions.

Instructions for Practice Test:

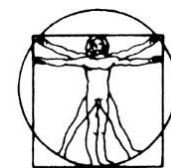
- Number sequences will be **displayed on screen** in increasing length.
- Enter the numbers on the key in the **EXACT** order they were displayed.

AUDITORY SHORT TERM MEMORY

Overview:

This test measures the capacity for holding a small amount of auditory information in mind in an active, readily available state for a short period of time. This ability is crucial to every aspect of social performance. It includes the ability to remember phone numbers, addresses, new rules a math exercise or aspects of a new task, or what was

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just said in a conversation. Individuals with problems in this area may notice especially that they have difficulty following conversations and instructions –

Instructions for Practice Test

- Number sequences will be **spoken** in increasing length.
- Enter the numbers on the key in the **EXACT** order they were spoken.

WORKING MEMORY

Overview:

This test measures the ability to hold and maintain visual items in a readily accessible manner and manipulate them during thinking. This is especially critical for analytical and mathematical thinking. Individuals must maintain many different facts in short term memory as they work to synthesize or order them in some sequence. Individuals with working memory problems have difficulty especially in areas of math performance and the completion of complex job tasks.

Instructions for Practice Test:

- Number sequences will be **displayed on screen** in increasing length.
- Enter the numbers on the key in the **REVERSE** order they were displayed.

AUDITORY WORKING MEMORY

Overview:

This test measures the ability to hold and maintain auditory items in a readily accessible manner and manipulate them during thinking. This is especially critical for analytical and mathematical thinking. Individuals must maintain many different facts in short term memory as they work to synthesize or order them in some sequence. Individuals with working memory problems have difficulty especially in areas of math performance and the completion of complex job tasks.

Instructions for Practice Test:

- Number sequences will be **spoken** in increasing length.
- Enter the numbers on the key in the **REVERSE** order they were spoken.

SEQUENTIAL MEMORY

Overview:

This test measures the ability to remember and recall sequences related to information such as instructions and recall where items are located or placed in order. This is a crucial academic skill required to understand and follow directions to complete a given task. The tonal or auditory version of this is related to the ability to remember musical tones but can be an important part of remembering spoken tones related to conversation.

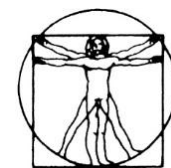
Instructions for Practice Test:

- Colored circles will be displayed in sequential patterns of increasing length.
- Click or Touch the circles in the **EXACT** order they were displayed.

LIST ACQUISITION

Overview:

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This test measures an aspect of working memory central to academic performance in both verbal and mathematical realms of learning. List acquisition determines how well an individual can learn and maintain a list of words or mathematical terms in working memory and repeat them back. This aspect of working memory helps individuals recall given items and rules and then execute them.

Instructions for Practice Test:

- A list of words will flash on screen.
- A larger group of words will then be displayed on screen
- Click or Touch the words, in no particular order, that were flashed on screen.

FILTERING

Overview:

This test helps determine how well an individual can sort through information and filter out what is not immediately important and focus attention on crucial key features of a task. The ability to adequately filter and process perceptual information is crucial for aggregating information in a usable form for purposes of object recognition, evaluation, planning and decision making as well as the physical execution of any task.

Instructions for Practice Test:

- Colored words will flash on screen.
- As fast as possible, click or touch the colored square that matches the color of the text of the word displayed on screen.

EPISODIC MEMORY

Overview:

This test measures the ability of an individual to hear a story or the recounting of an event and retain key features of the event for future use in solving problems. Episodic memory is crucial for recalling important facts regarding what was read or heard regarding a given narrative. It is an especially important aspect of reading comprehension.

Instructions for Practice Test:

- A short story will display on screen for 10 seconds.
- You will then be presented with questions about the short story.
- As quickly as possible, answer each question and click Next.

EXECUTIVE FUNCTIONING

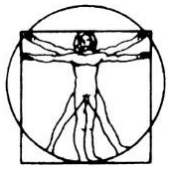
Overview:

This test measures general executive functions which include goal directed behavior, organizing, planning and decision making, shifting sets or categorization, and impulse modulation. These skills combine in a wide variety of interactions with other important major networks such as attention and working memory. Executive planning is a crucial aspect of understanding social situations and forming behavioral strategies to effectively negotiate them.

Instructions for Practice Test:

- You have four cards placed face up and a top card to match to them.
- There is a rule for matching the cards and you will need to guess what it is.

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- Your task is to click/touch one of the four cards that you think matches the top card, according to the secret rule.
- You will see "Correct" or "Incorrect" displayed after each attempt.
- You can take as long as you like for each decision, but may not change your mind. You should attempt to get as many right as possible.
- From time to time the rule will change without you knowing. You will then need to discover the new rule.

SPATIAL SORTING

Overview:

This test measures the ability to observe objects and patterns, retain them in working memory, and then to recall them shortly afterward. It includes the capacities of figure memory, short term visual memory and visual working memory. This is an important skill for the retention and manipulation of mathematical terms and geometric images as well as manipulating images in working visual memory.

Instructions for Practice Test:

- A group of cards will flash on screen one at a time.
- A larger group of cards will then be displayed on screen
- Click or Touch the cards, in no particular order, that were flashed on screen.