

# An Introduction to the CBS Health Cognitive Assessment



HEALTH

CBS Health is an online brain health assessment service used by leading healthcare practitioners to quantify and objectively assess, monitor, and manage core areas of cognition that are key to your mental health and wellness.

# What is CBS Health?

CBS Health is an online brain health assessment service that **accurately measures core elements of your cognitive function, including memory, attention, reasoning and verbal abilities**. Your healthcare practitioner will use these measures to assess, monitor and manage core areas of cognition that are key to your mental health and wellness.

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## Benefits of CBS Health



**Convenient** - CBS Health is web-based and flexible. Assessments can be completed on desktop, laptop and tablet devices, no pen and paper or special hardware required



**Engaging** - CBS Health tasks take only 1.5 - 3 minutes to complete, and are highly engaging, enjoyable and unthreatening. Plus, interactive and repeatable task tutorials will ensure you get up to speed on the task



**Actionable** - CBS Health allows you to quantify the core elements of cognition and track your cognitive trends over time, validating that treatment or wellness plans are having the desired effects, or allowing you to detect episodic changes to your cognition.

## By the Numbers



Tasks used in 300+ peer-reviewed studies of cognition



Over 8 million tasks completed globally, and counting

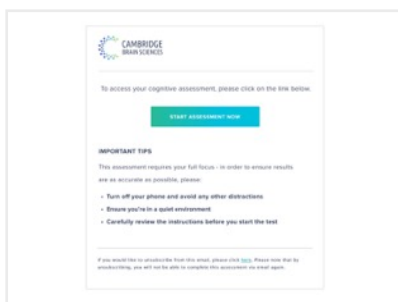


Backed by over 25+ years of scientific research

# How It Works

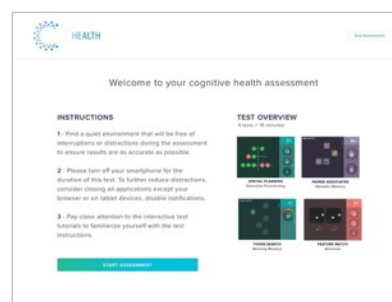
Taking a CBS Health assessment is fast and simple, with no special hardware required. Assessments can be taken on laptops, desktops or tablets and are supported by all modern browsers. See how it works in more detail below.

1



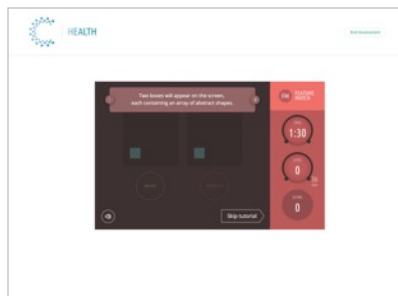
Your healthcare practitioner will send you a link via email, or schedule an in-person appointment to administer the cognitive assessment.

2



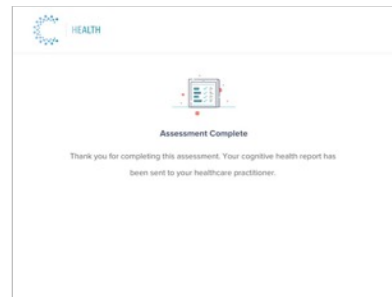
Before you begin, you'll be prompted to review instructions and details regarding steps for taking your cognitive assessment, as well as how long the assessment will take.

3



Upon reviewing the instructions, you'll move on to the interactive tutorial for the first task. You may repeat this tutorial multiple times to ensure you're comfortable with the task instructions.

4



Once you've completed the tutorial, you'll be asked to complete the task. Once the assessment is complete, a report will be generated and sent to your practitioner for review.

# Preparing for the CBS Health Assessment

To ensure your assessment results are as accurate as possible, here are several tips to be mindful of before and during the tasks.

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## Reduce distractions.

Do your best to give your full attention to the tasks. Whether you're at home or at the clinic, ensure that your surroundings are calm and quiet, and put your personal devices on silent mode.



## Familiarize yourself with the tasks before starting.

Complete the interactive tutorials to ensure you understand the rules of the task before you begin. If you feel you've missed something in the task instructions, or aren't comfortable proceeding past the task tutorials, you can re-take the task tutorial until you're ready.



## Get comfortable.

This is a task for your brain—it shouldn't be hard on your body. Find an environment that is as comfortable as possible, and adjust your chair and screen so you are in the position that feels most natural.



## Be consistent from task to task.

Take the tasks in the same environment every time. Do your best to control for external variables, such as time of day and hours slept the night before. Unless your healthcare practitioner recommends specific changes to your daily routine, try to keep things consistent.



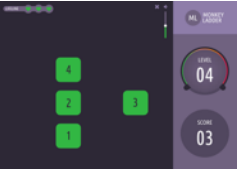


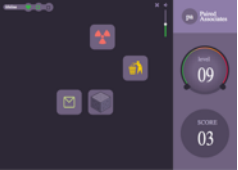
## Don't overthink it.

Think of the assessment like having your blood pressure measured - in other words, it's a *measurement* as opposed to a *test*. If you answer a few questions incorrectly during your assessment, that is to be expected. Don't let it discourage you - keep going and try to maintain your focus throughout the duration of the assessment.

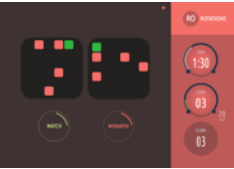



# Detailed Overview of the Tasks

CBS Health features a comprehensive selection of cognitive tasks that **accurately measure core elements of cognition, such as memory, attention, reasoning and verbal ability**. The table below highlights each of these tasks in detail. Your CBS Health assessment may be comprised of any number or combination of the tasks outlined below.


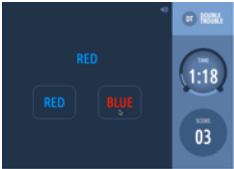
## Memory

Task	OUTCOME MEASURE	RELATED EXAMPLE ACTIVITIES
<p><b>MONKEY LADDER</b></p> 	<p><b>Visuospatial Working Memory</b>—the ability to temporarily hold information in memory, and manipulate or update it based on changing circumstances or demands.</p>	<p>Planning your day and the errands you need to run, then carrying out those errands in the correct order by memory.</p>
<p><b>SPATIAL SPAN</b></p> 	<p><b>Spatial Short-Term Memory</b>—the ability to temporarily store spatial information in memory.</p>	<p>Recalling and then delivering a set of directions to someone for a route you just took.</p>
<p><b>TOKEN SEARCH</b></p> 	<p><b>Working Memory</b>—the ability to temporarily hold information in memory, and manipulate or update it based on changing circumstances or demands.</p>	<p>Systematically searching for your car keys that have been left somewhere by your partner.</p>
<p><b>PAIRED ASSOCIATES</b></p> 	<p><b>Episodic Memory</b>—the ability to remember and recall specific events, paired with the context in which they occurred, such as identifying when and where an object was encountered.</p>	<p>When storing household items after grocery shopping, later remembering which items you put where.</p>

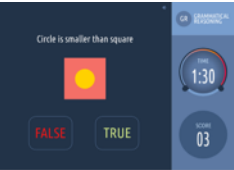

# Reasoning

Task	OUTCOME MEASURE	RELATED EXAMPLE ACTIVITIES
<p><b>ROTATIONS</b></p> 	<p><b>Mental Rotation</b>—the ability to efficiently manipulate mental representations of objects in order to make valid conclusions about what objects are and where they belong.</p>	<p>Navigating using a map on your phone that keeps rotating every time you turn, or finding the route to a room inside a building even though you came in through a different door.</p>
<p><b>POLYGONS</b></p> 	<p><b>Visuospatial Processing</b>—the ability to effectively process and interpret visual information, such as complex visual stimuli and relationships between objects.</p>	<p>Performing actions that require precise assessment and reasoning about objects, such as drawing, constructing models, aligning decorations on a wall, or designing a web page.</p>
<p><b>ODD ONE OUT</b></p> 	<p><b>Deductive Reasoning</b>—the ability to apply rules to information in order to arrive at a logical conclusion.</p>	<p>Determine that something is true because of a set of facts. For instance, when doing your taxes, you may determine that you qualify for a tax rebate based on certain rules set out by your country.</p>
<p><b>SPATIAL PLANNING</b></p> 	<p><b>Planning</b>—the ability to act with forethought and sequence behaviour in an orderly fashion to reach specific goals, which is a fundamental property of intelligent behavior.</p>	<p>Packing items into your car’s trunk so that they all fit, or assembling a piece of furniture.</p>

# Attention

Task	OUTCOME MEASURE	RELATED EXAMPLE ACTIVITIES
<p><b>FEATURE MATCH</b></p> 	<p><b>Attention</b>—the ability to draw upon mental concentration and focus in order to monitor for a specific stimulus or difference.</p>	<p>Identifying similarities and differences when comparing two things, such as deciding which of many great photos of your friends to share from an evening out.</p>
<p><b>DOUBLE TROUBLE</b></p> 	<p><b>Response Inhibition</b>—the ability to concentrate on relevant information in order to make a correct response despite interference or distracting information.</p>	<p>Blocking out background conversations when you're trying to focus on something, or ignoring buzz words when viewing a television ad (“Fresh! Simple! Revolutionary!”), while focusing your attention on more important factors, like price or quality of the item being sold.</p>

# Verbal Ability

Task	OUTCOME MEASURE	RELATED EXAMPLE ACTIVITIES
<p><b>GRAMMATICAL REASONING</b></p> 	<p><b>Verbal Reasoning</b>—the ability to quickly understand and make valid conclusions about concepts expressed in words.</p>	<p>Understanding everyday speech that may contain negative statements - for instance, “I didn’t know that he wasn’t going to show up”.</p>
<p><b>DIGIT SPAN</b></p> 	<p><b>Verbal Short-Term Memory</b>—the ability to temporarily store information in memory.</p>	<p>Remembering a telephone number as you're entering it into your phone.</p>

# Frequently Asked Questions

## *I feel like I did not do well on my assessment - should I be concerned?*

You should not be concerned if you feel you did not do your best - there is no such thing as “best” for this type of assessment. The tasks are designed to be challenging and to assess your limits by getting increasingly difficult as you answer questions correctly. Please be aware that this is only a *snapshot* of your cognition at the moment you are completing the assessment and that cognitive performance tends to fluctuate naturally from day to day depending on many factors (like your sleep quality, stress level, nutrition, exercise regiments, etc.).

## *I could not complete my assessment due to an interruption or technical issue - what should I do?*

If you're interrupted or experience a technical issue during the assessment, contact your healthcare practitioner and describe the situation, as well as the task you were on, so that results for that specific task can be interpreted appropriately. If you experience a technical issue that prevents you from accessing the assessment, let your practitioner know the operating system and browser you are using.

## *How long does the assessment take?*

Assessments can vary in length depending on the number of tasks your practitioner has chosen. A four-task assessment will take roughly 15 minutes, while a full 12-task assessment may take approximately 40 minutes. You can view the approximate length of the assessment on the first page of your assessment.

## *How will my practitioner use the results?*

CBS Health is used in a variety of different ways, ranging from annual monitoring of your cognition to evaluating recovery from injury to validating treatment plans or interventions designed to improve your brain health. We encourage you to speak with your healthcare practitioner to learn more.

## *What does a CBS Health report look like?*

You can view a sample report [here](#). Reports will indicate raw scores and percentile ranks compared to others of the same age and gender, as well as tracking your results over time (if you've taken assessments previously).



# About Cambridge Brain Sciences

Cambridge Brain Sciences is a leading provider of web-based brain health assessment software for healthcare practitioners (CBS Health) and researchers (CBS Research). Our proprietary assessments of brain function and brain health have been developed over the past 25 years, taken over 8 million times and used in over 300 studies published in leading peer-reviewed academic journals. As a result, we maintain and possess one of the world's largest normative databases of cognitive function. Our tasks are highly engaging, require no expert technical support to administer and are based on the pioneering work of our Chief Scientific Officer, renowned neuroscientist, Dr. Adrian Owen ([owenlab.org](http://owenlab.org)).

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