FAQs

AND

SOME RAQs (RARELY ASKED QUESTIONS)

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ABOUT GRAY MATTER METRICS, LLC

Who developed CogSpeed?
The brains behind CogSpeed work at Gray Matter Metrics, LLC, in San Antonio, Texas. Some very talented software engineers are dedicated to developing ground-breaking cognitive measurement technology. Layne Perelli, the owner of Gray Matter Metrics, invented the fundamental CogSpeed computerized testing program as part of his doctoral dissertation from The Catholic University of America in 1980 . He received a patent on it in 1984.

It is the mission of Gray Matter Metrics to open up a revolutionary approach to monitoring human performance in the real the world, anywhere, any time, and to make that valuable information available immediately to anyone who needs to know it. Our goal is to distribute products that improve workplace safety, help save lives, and contribute to the overall health and well-being of society.

We are continually investigating new applications for the information provided by the CogSpeed test, and striving to insure the data is useful, appropriate, and valid. Please help us in this endeavor by providing feed back about your experiences with CogSpeed.The applications suggested below are being constantly evaluated and reviewed.

Why did CogSpeed take so long to develop?
The technology was simply not in place for such a sophisticated web app capability until very recently. This application requires a lightweight portable device with very powerful, high-speed processing power connected to the internet for worldwide data collection. The internet, e-mail, and smart phones had to be developed first.

In addition, only the latest advances in software engineering (Java Script, HTML5, and Microsoft DB), wide-spread internet or cellular connectivity, inexpensive cloud data storage, and the advanced micro-processors found in today's mobile devices allow the web app to run efficiently at an affordable price.

ABOUT CogSpeed

What is CogSpeed?
CogSpeed is fundamentally a **speedometer** for your brain. It measures how fast you can think at any given moment. A drop in your brain's processing speed can provide valuable information on the potential detrimental effects of fatigue, alcohol, drugs, brain trauma, and senility on your real-world performance.

It's a state-of-art Web App written in JavaScript that runs on any Smartphone or tablet having a Chrome or Safari browser. An internet connection (wi-fi or cellular) is required for initial installation, but it will also be designed to be operated in stand alone mode.

How does CogSpeed work?
CogSpeed uses an innovative high-speed adaptive computer algorithm to rapidly hunt for your best cognitive processing ability. It drives you to information overload, and then rechecks to make sure its a valid score.

The test usually only takes about 45 to 120 seconds to complete. For the most accurate measurement, just respond as accurately and as quickly as you can, and CogSpeed will do the rest.

Although rare, if CogSpeed doesn't get an accurate reading, it will require a retest for up to two more times. After that you have to go back and ask for a new test session.

If you think you scored lower than you should have, just retest, as often as you like. But once your scores stabilize, that's probably your actual performance capability.
As you take the test, your brain enters into a relation with the computer processor to hunt for the fastest speed you can accurately process complex information. CogSpeed can tell if you are

distracted, not paying full attention, or just responding randomly. CogSpeed can't be fooled by guessing. It detects cheating. You can't fake a good score, and it's very hard to fake a poor score. Most people want to see how well they are doing, not wanting to malinger. A trucker, for example, doesn't usually want to tell his company he's incapable of driving when he is.

Because of its sophisticated design, CogSpeed is hard to fool, so both false positives and false negatives are minimized. That is, a tired person can't fake being alert, and when wide-awake, it's not easy to appear fatigued. It will invalidate the test if your responses are unusable. Thus an individual producing a low CogSpeed score is highly likely to be cognitively impaired.

Initially CogSpeed allows you show how mentally competent you think you are at the moment. The computer keeps a complete running count of right and wrong responses, omissions, and response times, down to the millisecond. Next, CogSpeed takes control of the test to quickly hunt for the fastest examples of your actual cognitive processing ability. You now have to prove to CogSpeed that what you told it initially was correct.

Depending on how fast you are responding, it slows down up or speeds up until you can't keep up. Behind the scenes, CogSpeed runs internal checks and thousands of high-speed calculations, undetectable by the user, to make its evaluation.

After CogSpeed believes it has found its best estimate of your true performance capability, it calculates and displays your Cognitive Processing Index (CPI), a score from 0 to 100. A score less than 20 indicates potential cognitive impairment.

What does CogSpeed measure?
The CogSpeed test gives an instantaneous measure of how fast you are able to correctly process information. The value of CogSpeed is that when your test scores drop below a certain level, it is a good indication that your actual performance is impaired. You could be becoming a danger to yourself and others if you continue in hazardous behaviors requiring sharp mental processing skills, for example, driving. It also is useful for many other applications where you want to know how well you are functioning mentally.

Your brain is sensitive to five major factors which will reduce your processing ability:

- ***fatigue***
- ***alcohol***
- ***some drugs (prescription, over-the-counter, recreational, and illegal)***
- ***traumatic brain injury (TBI), such as concussion, and***
- ***aging effects.***

While CogSpeed scores drop due to these factors, it cannot distinguish what is actually causing the decrement. But because of the rapid feedback, you should have a pretty good idea why, and what to do to improve your performance.

What are CogSpeed's Unique Features?
CogSpeed was designed with advanced human factors attributes from the ground up to make it especially suitable for use by anyone in all real-world environments.

CogSpeed Features

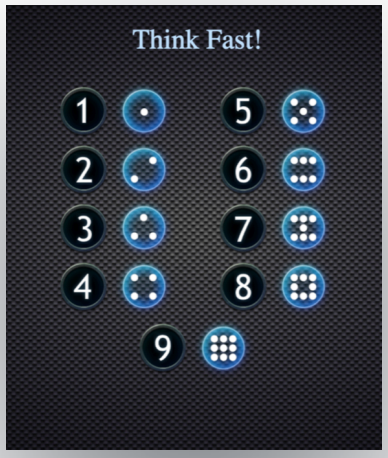
- ***Works on any smart phone or tablet with a wi-fi connection***
- ***Easily portable anywhere***
- ***Economical***
- ***Quickly and easily learned to a stable baseline***
- ***Easily readable large type***
- ***No special language requirement***
- ***Culture-free - useable by anyone in the world***
- ***No hearing requirement - silent operation - does not disturb anyone near by***
- ***No color vision requirement***
- ***Short test time - usually under 2 minutes***
- ***Computer accuracy to 1 millisecond***
- ***Sophisticated adaptive computer algorithm detects faking and spoofing***
- ***Provides both objective and subject estimate of cognitive performance***
- ***Results are provided to the user in an instant***
- ***Results can be E-mailed to anyone user desires***
- ***Complete test session data inputs can be downloaded***
- ***Exact geo-location of test taken is available***
- ***Password protected login***
- ***All data and personal information stored using SSL security***
- ***Complete tech support available***
- ***A single objective test measures cognitive impairment due to***
  - ***Fatigue***
  - ***Prescription, illegal, recreational, and over-the-counter drugs***
  - ***Alcohol***
  - ***Traumatic Brain Injury/Concussion***
  - ***Aging***

LEARNING TO TAKE THE CogSpeed TEST

Is the CogSpeed App difficult to learn to use, complicated, or time consuming?
Not at all! CogSpeed was designed from the ground up to be easy to use and not interfere with your daily routine. It's **culture-free** and has **no language requirement.** The entire testing session usually takes under three minutes, less time than to take your oral temperature. We are providing a wealth of information on CogSpeed for those who want the details or have questions, but it's very easy to use CogSpeed and interpret the results. Children under the age of 18 may take the CogSpeed Test, but with permission and supervision of a parent or guardian.

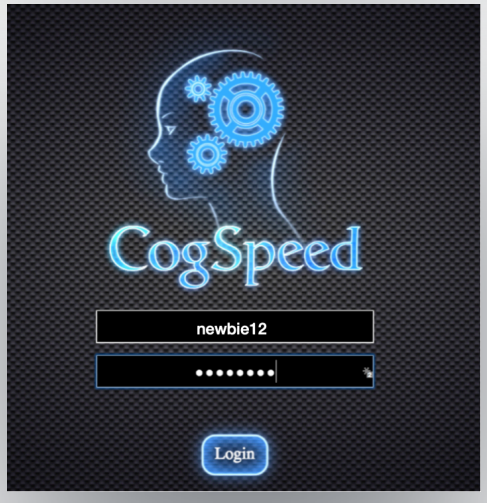
How do I learn to take the CogSpeed test and get the latest USER ID and PASSWORD?
The graymattermetrics.co website provides COMPLETE Instructions and the latest USER ID and PASSWORD. The CogSpeed App also includes a training tutorial. It will take about five minutes to learn how the test works, and then you should take several practice tests until you feel comfortable with it. Here's a brief intro:

LEARN THE DOT-NUMBER ASSOCIATIONS



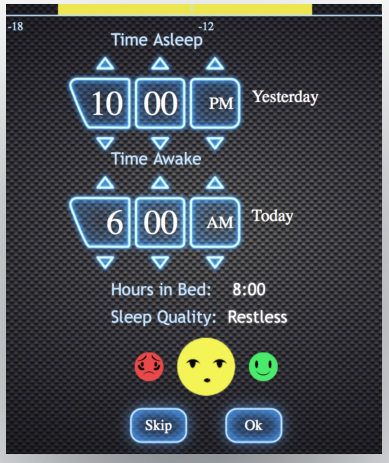
LEARN WHICH BUTTON TO PRESS

DOWNLOAD THE CogSpeed WEB APP TO YOUR TOUCH SCREEN DEVICE AND LOGIN WITH THE USER ID AND PASSWORD FROM THE INSTRUCTIONS



Skip the SLEEP DATA page until you master CogSpeed

There's a separate Tutorial on this function on the "How to take the test" page at graymattermetrics.com



ENTER HOW ENERGETIC YOU FEEL ON THE ENERGY LEVEL SELF REPORT (ELSR) PAGE

TAKE THE TEST

CONTINUE RESPONDING UNTIL COGSPEED HAS FIGURED OUT YOUR CURRENT COGNITIVE PROCESSING ABILITY.

SEE YOUR CogSpeed SCORE.

That's all there is to it!

Go to the graymattermetrics.co web site for **COMPLETE** Instructions, **User ID**, and **Password**.

If you take the test, we would appreciate your feedback, good or bad.

Send your comments to info@cogspeed.com or the CogSpeed Facebook page.

Can I take the CogSpeed test on my home computer?
CogSpeed was designed for use only with a touch screen input on a mobile device such as a tablet, or smartphone. While the test will work on a desktop, you won't get accurate scores. But when a Subscription Service becomes available, you could use a desktop computer to download and print graphs and tables of your data.

We recommend using a smart phone with a wi-fi-connection to take the test. The advantage of a smart phone is that it easy to carry, and it also has a cellular data connection which provides CogSpeed testing and internet downloading of your scores anywhere your phone gets a signal. If the screen is difficult to read or the buttons are too small to press accurately, a tablet or an iPad will work better for you. And of course, some tablets and iPads provide cellular connection also.

Can I save my CogSpeed Data to my computer?
If your computer allows downloads, on the Dashboard, press the **"GEAR"** on the upper right. and then **"CPI"** in the circle. Follow your Computer's instructions.

CogSpeed DATA PROTECTION

How long are my scores kept on the Gray Matter Metrics database?
If you have a Subscription account, scores are always retained for at least six months past the expiration date of your subscription. If you re-subscribe during that period, your earlier data can be made available to you if you desire.

Do you share my scores with anyone?
If you are using the Commercial Version of CogSpeed, individuals or companies that participate in that program are provided access your data, but only with your consent and understanding. Your taking the CogSpeed test as part of that Program provides your agreement for your data to be shared only with anyone having access to the data provided to the remote monitor app. Otherwise, Gray Matter Metrics, LLC will not share your data with anyone without your written consent or court order. However, you are free to share your data with anyone you like, unless you have made a prior agreement not to.

How is my data protected?
Gray Matter Metrics takes great care to safeguard your personal data. If you have an advanced version, your login password is protected to prevent unauthorized data from being entered to your files. You should guard your password and prevent others from using your password. Our servers use the latest SSL security level encryption and user authentication procedures.

Does CogSpeed produce "sensitive" information?
Information generated by CogSpeed testing might not be considered sensitive by some of our users. However, we **always** treat your test scores as if they were sensitive to protect your privacy. We use the latest security standards to safeguard all of your information in our databases.

Is CogSpeed a medical device? Does CogSpeed data need HIPPA controls?
No! and No!

Gray Matter Metrics, LLC makes no claims that CogSpeed is a medical device or that it produces any kind of medical diagnosis, advice, or data. See the Terms f Service (TOS) on graymattermetrics.com .

However, CogSpeed may provide useful information for the medical community. CogSpeed data may indicate that someone should seek medical attention, or that medical advice may be needed from a qualified source, but CogSpeed data itself does not provide a medical diagnosis. It is no substitute for a professional medical evaluation.

As useful as CogSpeed results are, they are never to be interpreted to mean that anyone must or must not seek medical advice.

THE IMPORTANCE OF A BASELINE

Will I improve my scores with practice?
You may want to compare your scores with friends, family, or co-workers at certain times, or in certain situations, but CogSpeed is not a really a game. After your initial training period, you will quickly establish a fairly stable personal baseline of your cognitive speed. After that, large decrements will only occur due to impairment from factors such as fatigue, alcohol, some drugs, (prescription, over-the-counter, recreational, and illegal), brain trauma, such as concussion, aging effects, and/or some combination.

What's a baseline, and how do I get one?
You want to find out your typical CogSpeed score when you are well rested, have not had any alcohol within at least the last 8 hours, and are not taking any drugs that could make you drowsy. This will not necessarily be your best possible score, but should be the one that you would get when not impaired in any way.

Note: If you have been prescribed medications that you believe could make you drowsy, **do not change the dosage without consulting your physician.**

After the reviewing the Tutorial, take the test several times to fully familiarize yourself with how it works. Review your test history to watch your scores stabilize. Baselines vary from person to person, depending on age and also from individual differences in mental ability, just as some people have fundamentally faster reaction times, reading speeds, and so forth.

So, if people have different baselines, what's typical?
There is a range of "normal" scores. The typical CogSpeed score, or CPI, ranges from 80 to 60. BRD typically ranges between 900 and 1200 milliseconds and the IPR from 1.11 to .833.

Within the normal range people function effectively Over your lifetime, all things being equal, your scores will gradually decrease.

Note: The IPR and CPI are derived from the BRD, so they are highly correlated.

So, if people have different baselines, what are "poor" scores for various groups?
Scores indicating serious impairment tend to converge and are closer together for everyone. A stable Cogspeed below **16, a** BRD score above approximately **1600** milliseconds, and an IPR below **0.58** and usually indicates cognitive impairment for anyone producing those scores.

How do I use my baseline scores?
When you produce scores much lower than your baseline scores, you can be pretty sure your current cognitive ability has been reduced, and it's probably been caused by fatigue, drugs, or possibly even brain trauma, such as a concussion. Changes due to senility, however, will occur slowly, not abruptly.

How do I get the most reliable scores?
First, practice until you have mastered the dot-number associations. The number of tests required will vary from person to person, but most get the hang of it in under 20 tries.

- Respond as fast as possible, but don't guess.
- Try to respond while the screen is still up, not after it changes. Don't worry about skipping screens.
- Don't worry about not being able to keep up. CogSpeed is always faster than you are!
- Take the test without distractions around you.
- Take the test at the same time each day to see what your typical score looks like.

- If your score doesn't seem right, take the test again until it stabilizes.

- It's not unusual for you cognitive ability to momentarily decrease or increase. What you want to know is if it's a long lasting trend.

- Your cognitive performance and fatigue levels will naturally fluctuate through out the day: improving, declining, then sometimes without rest, improving again. These changes can also occur within moments. This "second-wind" phenomenon makes measuring fatigue very difficult to pin down. CogSpeed is an objective way to get at this problem.
- CogSpeed is most reliable at determining when your cognitive performance has dropped to a significantly low level. When this occurs, you should not engage in hazardous activities, like driving, and you will not recover without rest.

THE STANDARD TEST PROTOCOL

What is THE STANDARD TEST PROTOCOL?
The Standard Test Protocol is simply a recommended daily pattern for taking the test. You would take the test soon after you wake up, then 6, 10, 12, and 14 hours later, and then every hour until you go to bed. This pattern will usually result in about 6 to 8 tests per day, depending on how long you stay awake. Set an alarm on your mobile device to remind you when to test. Remember to record your scores, dates, and time of testing. Plot a graph to visualize your changing performance capability.

You can also take the test as often as you want during this period. For example, take it whenever you feel tired or want an instant estimate of your cognitive ability.

CogSpeed SCORES

What scores are produced by CogSpeed testing?
The ELSR, the BRD, the IPR, and the CPI.

What Is the ELSR?

It's very similar to reporting a fatigue score, but could it indicate performance decline due to drugs, alcohol, TBI, or senility. You are asked for a quick personal assessment of how energetic or slow you feel at the time you take each CogSpeed test. This report is called The **Energy Level Self Report**, or ELSR. Your input can range from 7, feeling super fit, to 1, feeling you are unable to safely function. Your estimate of your energy level is similar to reporting fatigue, but provides a simple way to also report feeling affected by drugs, alcohol, or possible head injury. You are asked for this subjective estimate just before each CogSpeed test session.

The Energy Level Self Report

or

ELSR.

What is the BRD?

Your **Blocking Round Duration** is how fast you could correctly respond to the CogSpeed test before cognitively overloading or you "block" momentarily. The BRD is determined by finding the shortest display time could you can correctly respond to. CogSpeed actually rapidly retests you without you realizing it to increase the accuracy of your score. BRD is the heart of what CogSpeed is measuring. This number increases as your cognitive performance decreases, and has a range from about 800 to 1700 milliseconds. The lower your score, the better your cognitive functioning.

What is the IPR?

The **Information Processing Rate** is the BRD converted to displays of information processed per second. This number decreases as your cognitive performance decreases, and typically ranges from **.58 to 1.25 displays per second.**

What is the CPI?

The **Cognitive Processing Index** is **your CogSpeed score.** It is an integrated performance estimate normalized to a 0 to 100 scale. The lower the number, the lower your apparent cognitive processing ability. It's derived from your IPR and incorporates extreme ELSR scores. This makes it easy to grasp the meaning of the BRD and IPR. The **CPI** is CogSpeed's best estimate of your current cognitive performance capability.

How do I find my CPI or CogSpeed scores?

After the test is finished, you will be directed to the **CogSpeed Dashboard** to see your scores. In addition, all your CogSpeed scores and sleep data are stored on our secure database for display in high-quality graphical or tabular formats.

The CogSpeed Dashboard

What does the CogSpeed Dashboard tell me?
Based on your CPI, the Dashboard provides a **text message** of how well you appear to be performing, and provides the results of your tests: the ELSR, BRD, IPR, and CPI. You only have to focus on the CPI, or CogSpeed score, to understand your current cognitive capability.

You can enter your estimate of how long and how well you slept. Then CogSpeed will calculate and display on the Dashboard how long you have been awake, your reported sleep period and sleep quality, the time you took the test, and the time scheduled for your next test. Your latest test information is always available on the dashboard for your review.

Can I view the graphs and tabular data on my home computer?
When Subscription Versions are available, you will be able to view and download your scores, dates and times from a desktop computer. Just log out of the mobile device and log into your home computer. Reverse the procedure to resume testing.

What's a "poor" CogSpeed score?
Normally, a CPI less than **16** or reporting an ELSR of **1** or **2**, especially **1**, is indicates a potentially severe drop in cognitive processing ability.

What should I do if I produce "poor" CogSpeed scores?
You need to **STOP** and get some **REST** immediately! Normally, in these cases, your subjective feelings will confirm your CogSpeed scores. Listen to your body telling you to stop and get some rest.

- **Don't drive until well rested and your scores have recovered to baseline!**
- **Don't engage in any hazardous activities requiring mental alertness until you improve!**
- **Try to avoid dangerous tasks requiring strenuous mental activity until your scores have returned to normal.**
- **If you have received a hard blow to the head, seek medical attention.**
- **If the impairment was from alcohol, wait for the effects to wear off before driving.**
- **If you suspect the very poor scores are caused by prescription medication, consult with your physician to see if the dosage can be reduced. Do not change the prescribed dosage without approval from your physician!**
- **If you suspect continually very poor scores are due to your age, you may want to consult with your physician.**
- **If you suspect the impairment is due to recreational drugs, such as marijuana, or over the counter medications, do not drive or engage in hazardous activities until you are sure the effects have worn off.**
- **Re-evaluate your sleep habits. Are you getting enough? Chronic lack of sleep is detrimental to your health.**
- **If very poor CogSpeed scores occur frequently and aren't eliminated when you are well-rested, it also could be an indication of Chronic Fatigue Syndrome, or certain diseases, as explained in the excerpt from the Mayo Clinic website below:**

Fatigue Insights - taken from The Mayo Clinic Website:

MAYO CLINIC - FATIGUE

- Nearly everyone struggles with being overtired or overworked from time to time. Such instances of temporary fatigue usually have an identifiable cause and a likely remedy.
- Chronic fatigue, on the other hand, lasts longer and is more profound. It's a nearly constant state of weariness that develops over time and diminishes your energy and mental capacity. Fatigue at this level impacts your emotional and psychological well-being, too.
- Fatigue isn't the same thing as sleepiness, although it's often accompanied by a desire to sleep — and a lack of motivation to do anything else.
- In some cases, fatigue is a symptom of an underlying medical problem that requires medical treatment. Most of the time, however, fatigue can be traced to one or more of your habits or routines.
- Taking a quick inventory of the things that might be responsible for your fatigue is the first step toward relief. In general, most cases of fatigue may be attributed to three areas: lifestyle factors, medical conditions or psychological problems.

Lifestyle factors
Feelings of fatigue often have an obvious cause, such as:
- Alcohol use or abuse
- Caffeine use
- Excessive physical activity
- Inactivity
- Lack of sleep
- Medications, such as antihistamines, cough medicines and cold remedies
- Unhealthy eating habits

Psychological conditions
Fatigue is a common symptom of mental health problems, such as:
- Anxiety
- Depression
- Grief
- Stress

Medical conditions
Unrelenting exhaustion may be a sign of a medical condition or underlying illness, such as:
- Acute liver failure
- Anemia
- Cancer
- Chronic fatigue syndrome
  Possibly "Long Covid " syndrome
- Chronic kidney disease
- COPD
- Emphysema
- Heart disease
- Hyperthyroidism
- Hypothyroidism
- Medications, such as prescription pain medications, heart medications, blood pressure medications and some antidepressants
- Obesity
- Restless legs syndrome
- Sleep apnea
- Type 1 diabetes
- Type 2 diabetes

These events are often associated with chronic fatigue.

Work with your doctor or other health care professional for an accurate diagnosis.

COGSPEED FAQS

Does CogSpeed make me smarter?
Not really, unless you count gaining insight into your mental processing health. But it could be useful in determining if "games" claiming to make you smarter are having any real effect.

Is CogSpeed an Intelligence (IQ) test?
No! Your cognitive processing speed is not directly related to your intelligence. A high score doesn't mean you are smart! A high bowling score doesn't mean you are smart. It means you have practiced bowling a lot. The difference with CogSpeed is that after the initial learning period, further practice won't improve you score. Getting some rest will.

How do I improve my scores?
Normally your scores will fluctuate a little, but won't change much from day-to-day, or from morning to night, unless you become very fatigued, or you are using alcohol or drugs which can make you drowsy.

Depending on the cause, you can recover by getting some rest, or waiting for the alcohol or drugs to clear your system. If you suspect your prescription medications are making you drowsy, check with your physician to see if you can safely reduce your dosage.

Do men do better than women on the test?
No significant gender differences have been found. There are, however, individual differences in people's scores. As in any behavior, some will score better than others. However, whenever anyone produces very low, "poor" scores, their performance is degrading.

What causes my CogSpeed scores to decline?
Fatigue, alcohol, some drugs, (prescription, over-the-counter, recreational, and illegal), brain trauma, such as concussion, and aging effects.
Note: In some states marijuana has become legal. This drug will impair your cognitive abilities and reduce your reaction times. You should not drive until the effects have worn off. CogSpeed can help you understand how marijuana is affecting your performance.

If I'm concerned about effects of alcohol, why not just take a breathalyzer test?
A breathalyzer measures the concentration of alcohol in your blood and the amount of alcohol you consume is normally closely related to your cognitive performance. But alcohol impairment can be greatly multiplied by fatigue, certain drugs you may be taking, or your age and this additional impairment won't be evident from your blood alcohol concentration. In addition, some people are more sensitive to alcohol impairment than others, and their performance may suffer before they reach the legal limit of intoxication. So, even though a breathalyzer shows your blood alcohol may be below the legal limit, CogSpeed might show severe cognitive performance decline before you reach that limit, indicating, for example, that you shouldn't drive.

But remember, **conversely**, some people are more tolerant to alcohol than others. Therefore, they may show less performance decline on CogSpeed at the legal blood alcohol limit of intoxication.

However, In the vast majority of cases, CogSpeed is highly correlated with alcohol levels in the bloodstream, with an added benefit of being also sensitive to multiplier effects of other debilitating factors. In any case, KNOW YOUR LIMIT!

Why not use an "activity monitor" to predict performance from sleep quality and duration?
An activity monitor can be useful for determining how much exercise you are getting, and to help you decide if you need more. Some models also attempt to measure your sleep length and quality. While they also have some value in sleep monitoring, the accuracy of the wrist activity monitor for sleep estimates varies greatly.

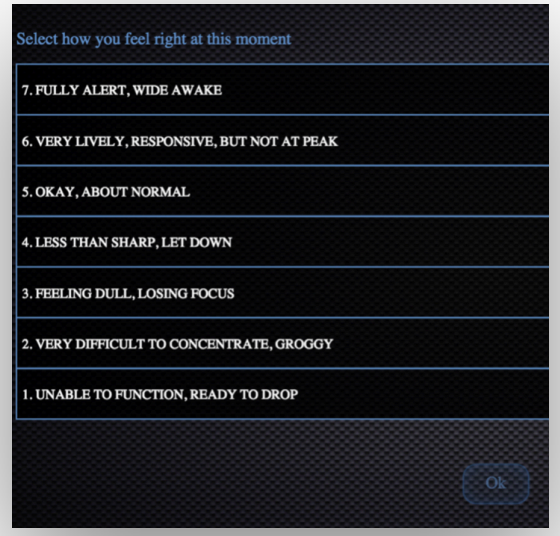
Even though a wrist monitor attempts to estimate how well you slept last night, it can't accurately measure current fatigue effects on performance. Fatigue level is a function many factors, including total time awake, your recent sleep history, as well as last night's sleep. A wrist activity monitor cannot detect current drug or alcohol impairment, concussions, or senility.

There is a fundamental test philosophy at Gray Matter Metrics: the best indication of your current performance capability is a surrogate cognitive test that mimics real world mental requirements, and that can be taken while you go about your normal routine. We test cognitive performance directly and objectively. We don't try to make cognitive performance predictions from just your activity level and/or how well you slept last night.

We at Gray Matter Metrics are developing technology to test your cognitive performance directly, at the time you are required to perform. Until CogSpeed became available this was not possible. CogSpeed is the only measurement system of its kind. It combines the best of all worlds, sleep information, total time awake, subjective report, and rapid, OBJECTIVE performance testing that can't be easily faked.

Why don't you just collect subjective fatigue data?
We at Gray Matter Metrics consider subjective fatigue data a valuable insight into a person's cognitive performance ability. That's why the Energy Level Self Report (ELSR) is included as part of the CogSpeed test. But while subjective fatigue data can provide important information when reported honestly, it is vulnerable to faking. The objective CogSpeed test prevents this. It is more reliable and more accurate than subjective reporting. CogSpeed is designed to be used in all situations, even those where someone may have an incentive to lie.

Energy Level Self Report Scale (ELSR)



The ELSR is based directly on the highly validated Samn-Perelli Fatigue (S-PF) Scale that is used in a wide variety of research studies throughout the world. CogSpeed asks for your ENERGY LEVEL, not just your feelings about fatigue. With one question, the ELSR, allows a person to report they feel they are performing poorly for factors other than fatigue, such as drugs, alcohol, or brain injury.

The subjective ELSR is relied on UP TO A POINT to modify the CPI, especially for extreme scores. The ELSR a gives a person the opportunity to reflect on how they actually feel to help them become more aware of their true fitness to perform. It can also help reinforce their acceptance of the CogSpeed Score. And honest reporting of subjective fatigue is obviously more sensitive to a feeling of fatigue than objective performance data. That is, even though you feel mildly fatigued, your performance may not suffer.

However, in other cases, a person may not feel too tired, but in fact their cognitive capability is nonetheless significantly compromised. CogSpeed will detect that situation and objectively report it.

Is CogSpeed sensitive to aging?
Yes, aging effects will up show as everyone naturally ages and everyone eventually loses some of their cognitive processing speed. Some lose it sooner than others and for some it is more severe than others. At very old age, a person cannot even easily take the test.

CogSpeed is useful in helping someone determine if they have lost so much cognitive ability that they should think about curtailing hazardous activities such as driving. If you have concerns about yourself, or a friend, or relative, a thorough neurological exam should be given before continuing to drive.

Can children take the Cogspeed test? What's the earliest age?
We have a Special Notice Regarding Children. Our Site is not designed for, nor do we knowingly collect, personal information from children under the age of 13. Anyone under 13 years of age, should not provide personal information to us. To purchase the Subscription Service, you must be at least 18 years old.
Children under the age of 18 are welcome to try to take the the CogSpeed Test, but only with permission and supervision of a parent or guardian. While young children can learn how to work CogSpeed because the matching task is easy to learn, it seems they have to reach a certain age to process fast enough to get a good score. Teen agers seems to catch on quickly. This is an area of on-going research.

How do you know CogSpeed works?
CogSpeed has the potential for a wide range of applications. Gray Matter Metrics is currently developing programs to demonstrate CogSpeed's validity in a number of scenarios and to develop national norms for various groups of users and situations. We are actively seeking research studies to correlate CogSpeed scores with performance declines in both laboratory and real-world studies.

The original forerunner for the CogSpeed test, The Discrete Information Processing Test or DIPT gave highly statically effective results for evaluating fatigue in a controlled Ph D laboratory study:

> FATIGUE STRESSORS IN SIMULATED LONG-DURATION FLIGHT: Effects on Performance, Information Processing, Subjective Fatigue, and Physiological Cost. Report SAM-TR-80-49 https://apps.dtic.mil/dtic/tr/fulltext/u2/a105484.pdf

Cogspeed has major improvements over the DIPT.

Why don't my scores change a lot, even at night before I go to bed?
You're going to feel tired before you go to bed, but unless you're so tired you would be unsafe to drive, CogSpeed scores won't change much. Your feelings of fatigue, as reflected in the ELSR may change more. CogSpeed is really designed to detect severe or dangerous drops in cognitive ability.

How long does the CogSpeed test take?
The test usually only takes about 45 to 120 seconds to complete. For the most accurate measurement, just respond as accurately and as quickly as you can, and CogSpeed will do the rest.

Although rare, if CogSpeed doesn't get an accurate reading, it will require you to retest up to two times. After that you have to go back and set up a new test session.

How do I know when to take the next test?
Set an alarm on your device. If you have the advanced version, just set the alarm on your device to alert you when you want to take the next test. It's that easy. You can set the alarm after each test session, or you can set several alarms right after you wake up to remind you throughout the day.

> You can take the test **anytime** you want to know your current cognitive processing ability.
>
> You can take it after a rest to see if you have recovered.
>
> You can take it before starting a long drive
> Use the alarm to remind yourself to take a break.
> Then you can take the CogSpeed test to check your performance to help determine if you should continue.

How often should I take the CogSpeed Test?
Take it whenever you are concerned about your ability to drive, or participate in an activity requiring mental sharpness, especially if it's hazardous.

On the job, take it before starting and then periodically to check your performance capability.

If you are on long, late night shifts, check to see if you are alert enough to drive home. Fatigue has been shown to impair driving as much as alcohol. Always make safety a priority.

You can take it as often as you like, but your scores won't change much until severe fatigue sets in, you start drinking, or you take certain drugs. We recommend taking it when you wake up and then, every few hours after waking, with greater frequency as the day goes on. Set up a routine and follow it every day. An approach we recommend is **The Standard Test Protocol** as described above.

USING CogSpeed TO IMPROVE PERSONAL WELL-BEING

How can CogSpeed benefit the general public?
Because CogSpeed measures the effect of many different stressors on your energy level and cognitive performance, it can be used for a wide variety of investigations of your personal well-being.

Here are some typical questions that CogSpeed can help you explore:
- Am I (or my children) getting enough sleep?
- Are my children alert enough to perform well in school?
- Am I too tired to continue driving on a long trip?
- Have I recovered from time zone changes?
- How does my energy level and cognitive processing speed fluctuate during the day
- and night, over a long period of time?
- Should I consider a different work-rest schedule?
- Is my shift work making me too tired to drive home?
- Do my prescription drugs make me too drowsy to drive?
- How seriously are medications or alcohol affecting my energy level or ability to concentrate?
- Is my mental performance better in the morning or night?
- Am I a "morning" or "night" person?
- Are my sleeping pills really effective in reducing my daily fatigue levels?
- If I use marijuana, will it affect my cognitive performance, and possibly my driving?
- How does my energy level and cognitive processing speed compare to others?
- Can life style changes in diet or exercise improve my energy level or cognitive processing?
- Do those energy drinks or vitamin supplements really improve my mental performance?
- Are these "mental exercise" tests really improving my cognitive performance?
- If so, how long does the effect last?
- Am I, or someone I know, getting too old to continue to drive safely?

Especially for seniors
- Am I still fit to drive safely?
- How are my medications affecting my mental abilities?
- How is my cognitive fitness changing over time?
- At what time of the day am I most mentally alert?
- Do "brain training" exercises improve my mental ability?
- Can I score over 60 if I am over 60?

Legal guardians of individuals on medications or with brain injury may want to have them test on CogSpeed to evaluate if they are safe to drive.

Depending on your questions and results, you should discuss your findings with your doctor or a qualified health professional.

If you are getting enough sleep, not using alcohol to excess, and are not on medications known to cause drowsiness, yet are still tired all the time and produce poor CogSpeed scores, you may suffer from Chronic Fatigue Syndrome. Chronic fatigue can be a symptom of many underlying medical conditions. If chronic fatigue persists, you should seek the advice of a physician.

These are just some of the many ways CogSpeed can be used to explore your own cognitive strengths and weaknesses. There are countless more intriguing uses waiting for you to discover.

Can I try out CogSpeed to see if I like it?
Yes! See how easy it is to obtain this fascinating information.

You can get started on CogSpeed for **free** today!

- Test as often as you like, anywhere , any time.
- This test will not provide your past scores and uses a universal password,
- We do not collect any personal information or your e-mail address.
- Go to graymattermetrics.com and tap on to “HOW TO TAKE THE CogSpeed TEST”.
- These easy-to-read instructions quickly teach you the test, how to download CogSpeed to your device, and then how to log on to the application.

COMMERCIAL APPLICATIONS

How can CogSpeed benefit a company?
A CogSpeed program instituted throughout a company can save money, reduce accidents, and save lives. The company increases employee morale by demonstrating it is investing in the latest technology to protect their safety and the lives of the general public. By reducing its risk of accidents, the company may receive more favorable, reduced, insurance rates. The CogSpeed program improves a company’s public image as an industry leader in workplace safety.

CogSpeed can be used to evaluate the effectiveness of safety programs designed to reduce operator fatigue. The CogSpeed historical data base can be used to identify habitually low scoring operators needing specific counseling or remediation.

CogSpeed provides a new class of actionable business analytics for evaluating operator reliability and improving decision-making for personnel actions.

Do you have workers involved in demanding, high-risk, or round-the- clock operations, or with ever-changing work schedules? Now your managers can observe the cognitive fitness status of their entire fleet of workers, world-wide, instantaneously, to answer questions like:

- Are current work-rest cycles affecting your employees well-being?
- Are programs to reduce worker fatigue effective?
- Is your crew ready? safe? dangerous?
- Do you always know that your workers are alert enough to perform critical tasks effectively?

How can CogSpeed be used in stressful and shift-work occupations?
CogSpeed can be used to monitor any employee having varying work-rest cycles, working unusually long shifts, or involving stressful, critical, or tiring duties which require high levels of mental alertness. This could include assessing the mental fitness of workers such as security guards, night watchmen, power plant operators, the police force, firemen, emergency response teams, operation center personnel, and so forth.

CogSpeed can be used to obtain direct measurement of the fatigue levels of a company’s entire world-wide workforce with minimal intrusiveness. The data can be collected with little interference to their daily routines.

Cognitive processing abilities of operators with critical or stressful tasks can be easily analyzed throughout their shift. A company can then determine when workloads or schedules are creating excessive fatigue levels which would impact the quality of their job performance.

Understanding the consequences of various work-rest schedules can help in the risk management of the company's entire workforce. Successful modifications can lead to improvement of the well-being of the entire staff.

Companies with round the clock operations, especially with shift workers having non-standard or extended work hours with critical responsibilities, can monitor their employees fitness for duty.

Benefits include determining which schedules to reduce worker fatigue are most effective, identifying individual workers who may be adversely affected by non-standard shift schedules, and determining if workers are safe to drive home at the end of their shift.

How would the Insurance Industry use CogSpeed?
Use of CogSpeed encourages operators to obtain proper rest during their off duty, especially if their cognitive performance and fatigue levels are being measured while on the job. Secondly companies can use CogSpeed data to analyze their fleet to identify overworked operators, stressful work-rest cycles, or especially fatiguing operations. A company using CogSpeed is taking positive steps to reduce accidents and save lives. Reducing accidents saves money for both the company and their insurer. Therefore, their insurance company could recognize their efforts to improve their safety record by reducing insurance rates.

In addition, insurance companies can use the real-time data collected by CogSpeed in their risk assessment models. They could adjust overall rates for any industry by having a better understanding the risks involved. Comparisons of insurance rates can be made for various companies within high-risk industries.

USES IN THE TRANSPORTATION INDUSTRIES

How would the Trucking Industry use CogSpeed?
CogSpeed could be used to determine when a truck driver becomes too tired to continue driving, constitutes a danger to himself or others, when any driver is unfit to drive because of prescription drug or alcohol use, and to identify drivers that are driving with consistently high levels of fatigue.

CogSpeed provides a reliable way for truck drivers to monitor their fatigue levels on their own. Chronically fatigued drivers who would be good candidates for sleep hygiene counseling can be identified. Knowing a CogSpeed test is coming provides a strong incentive for the truck driver to show up for work well-rested. Truckers would benefit because their health would be improved by getting better sleep before driving, and they would be involved in fewer accidents. Their families would be reassured knowing that their husbands are driving in a safer condition.

The trucking company can also conduct safety research to determine the patterns of onset of fatigue, to identify if particular routes cause excessively high levels of fatigue and should be changed, and to evaluate the effectiveness of their programs to reduce driver fatigue. Data mining could extract a wealth of information built up from thousands of CogSpeed tests from all over the country, at all times of the day and night. CogSpeed may also be able to help companies identify drivers prone to sleep apnea.

Cog Speed could be installed in truck stops and travel centers to help all drivers understand their fatigue levels and when they should take a break.

The corporate image of trucking companies using the state-of-the-art CogSpeed monitoring program would benefit by demonstrating to the public that they take safety seriously, and from being involved in fewer accidents. Companies, especially those transporting hazardous cargo, could work with the

insurance industry to receive reduced rates for monitoring their drivers' driving fitness in real time. The rate reduction could potentially pay for the CogSpeed program.

There are many other uses for CogSpeed in the transportation industries that will be discovered as the technology becomes more wide spread.

Presentations on the Gray Matter Metrics website provides further information on this application.

CogSpeed Applications for Trucking and Safety Operations

How would Coach and Bus Drivers and Public Transportation Agencies use CogSpeed?
Organizations, schools, church groups, clubs, and such who hire private coaches, vans and charter buses may want an indicator to show if their driver is fit to drive. By requiring drivers to take the CogSpeed test at various intervals throughout the trip, these groups would have peace of mind knowing that their drivers are well-rested and drug and alcohol free.

Municipalities could monitor their drivers and know when they have become too tired to continue driving, or when they constitute a danger to themselves or others. They could identify if any driver is unfit to drive because of drug or alcohol use, and identify drivers that have consistently high levels of fatigue. Daily monitoring will provide a strong incentive for the driver to show up for work well-rested and drug and alcohol free.

CogSpeed provides a reliable way for drivers to monitor their fatigue levels on their own. Chronically fatigued drivers who would be good candidates for sleep hygiene counseling can be identified.

The organization could conduct safety research to determine the patterns of onset of fatigue, to identify if particular routes cause excessively high levels of fatigue and should be changed, and to evaluate the effectiveness of their programs to reduce driver fatigue.

Municipalities could work with the insurance industry to receive reduced rates for monitoring their drivers' fatigue levels in real time.

How would the Marine Industry use CogSpeed?
CogSpeed can be used to determine if seamen and crew members are able to perform their jobs safely, when they are becoming a danger to themselves and others. In addition to fatigue, CogSpeed will help determine which sailors are unfit for duty due to drug or alcohol use as they come on watch. Daily monitoring provides a strong incentive for sailors to show up for duty sober and well-rested. CogSpeed also provides a reliable way for sailors to monitor their own fatigue levels.

CogSpeed is useful for fatigue management. It will help analyze which watch schedules or procedures reduce/increase crew fatigue, or routinely create unacceptable levels of fatigue. It can be used to evaluate how effective your safety programs have been in reducing crew member fatigue.

CogSpeed can identify chronically fatigued sailors who should receive counseling. It can determine and display the overall fitness level of the ship's entire crew, and maintain complete records of each of their ship's crew fatigue levels, from port to port, throughout the year. The company can clearly see which particular ships have more serious problems with crew fatigue, and reward officers who maintain low levels of overall crew fatigue.

How would the Airline Industry use CogSpeed?
CogSpeed can be used to determine if pilots and cabin attendants are able to perform their jobs safely and when they become a danger to themselves and others, to determine which crew members are most susceptible to fatigue, to determine which routes are the most physically demanding and tiring, and to maintain historical records of crew members' overall fatigue levels.

CogSpeed provides a reliable way for pilots and flight attendants to monitor their fatigue levels on their own and provides strong incentive for them to show up for duty well-rested.

CogSpeed can be used to identify chronically fatigued crew members so management can provide counseling. CogSpeed can also be used to determine if various programs, route modifications, or work-rest cycle changes intended to reduce crew fatigue are effective.

How would the Railroads use CogSpeed?
CogSpeed can be used to determine if railroad workers are able to perform their jobs safely and when they become a danger to themselves and others, to determine which crew members are most susceptible to fatigue, to determine which routes are the most physically demanding and tiring, and to maintain historical records of crew members' overall fatigue levels.

CogSpeed provides a reliable way for workers to monitor their fatigue levels on their own and provides strong incentive for them to show up for duty well-rested.

CogSpeed can be used to identify chronically fatigued crew members so management can provide counseling. CogSpeed can also be used to determine if various programs, route modifications, or work-rest cycle changes intended to reduce crew fatigue are effective.

RESEARCH APPLICATIONS

What is CogSpeed's Research Legacy?
The original forerunner for the CogSpeed test, The Discrete Information Processing Test or DIPT gave highly statically effective results for evaluating fatigue in a controlled PhD laboratory study:

> FATIGUE STRESSORS IN SIMULATED LONG-DURATION FLIGHT: Effects on Performance, Information Processing, Subjective Fatigue, and Physiological Cost. Report SAM-TR-80-49 https://apps.dtic.mil/dtic/tr/fulltext/u2/a105484.pdf

The latest Cogspeed test includes major improvements over the DIPT, but it has not reached its ultimate capability. Continued development of CogSpeed technology will result in further improvements in accuracy and reliability, and possibly even shorter test times.

How can CogSpeed be used in research?
There are many research studies which could benefit from being able to accurately and efficiently measure objective cognitive processing deficit as a dependent variable. CogSpeed is a standardized test that can be used to determine cognitive performance decrements in many different environments due to fatigue, drugs, alcohol, brain trauma, and senility.

CogSpeed provides a universal measurement tool for comparison of cognitive functioning across both laboratory and real-world field investigations.

CogSpeed is culture-free and has no language barrier. Data can be collected and compared for any one in any country in the world.

Data can be collected anywhere, anytime, and can be downloaded and instantly shared with any researcher, anywhere, the moment the testing is complete.

In Addition, CogSpeed can be used useful as a quick, inexpensive pre-screening tool in any research involving human subjects. Prior to the start of the investigation, CogSpeed will verify that every test subject is alert, well-rested, not impaired by drugs or alcohol and ready to begin the experimental protocol.

Customized data reports, even raw data response data sets for each test session can be developed for statistical analysis. Investigators may want to evaluate or create specific test displays or target

formats variables for unique research requirements. CogSpeed algorithms controlling such variables can be easily modified for experimental analysis. Contact the Gray Matter Metrics staff for your specific research requirements.

Possible research studies include:

- **Fatigue studies**
- **Sleep deprivation studies**
- **Sleep and circadian rhythm research**
- **Work-rest cycle studies**
- **Work-load analyses**
- **Human Factors field studies**
- **Psychological research**
  - **Individual differences**
- **Neurological research**
  - **EEG/MRI correlations**
- **Gerontology research**
  - **Evaluate cognitive Impairment**
- **Psychopharmacological research**
  - **Drug effects**
- **Pharmaceutical industry research**
  - **Drug drowsiness effects by dosage**
  - **Comparison of drugs drowsiness effects**

What does CogSpeed cost for use in Research Studies?
For legitimate research purposes, Gray Matter Metrics can provide free unique User IDs and Passwords for basic testing applications.

What about Subjective Fatigue data?
If you want to collect subjective fatigue data, the Samn-Perelli Fatigue (S-PF) Scale is incorporated into CogSpeed as the Energy Level Self Report (ELSR).

ESTIMATING AIRCREW FATIGUE: A TECHNIQUE WITH APPLICATION TO AIRLIFT OPERATIONS Report SAM-TR- 82-21

Researchers from around the world have used the Samn-Perelli Fatigue Scale since 1984. It has been well-validated and proven by many studies to be the test instrument of choice for reliable fatigue measurement. Fatigue scientists can search the internet for the wide-ranging applications that the S-PF Scale it has been used for.

It is recommended by the IATA, a highly respected aviation trade association:
Common Protocol for Minimum Data Collection Variables in Aviation Operations

Subjective reports such as the S-PF Scale, have been shown work well in research studies where large numbers of grouped scores are subjected to statistical analysis. This method is useful in evaluating the effects of issues such as work-rest cycles on the group's overall fatigue level and thus their cognitive performance capability. In addition, research has shown that when when an individual report the lowest 2 scores on the S-PF Scale, they are implying they are probably not fit for duty.

But the important goal of CogSpeed is to be able to predict an individual's current level of cognitive performance capability in a real world-setting. Just as the S-PF Scale is recognized as a universal measurement standard for subjective fatigue, it is hoped that one day CogSpeed will become the

standard for OBJECTIVE measurement of an individual's cognitive performance decrement due to fatigue.

Can CogSpeed Be Used in Research with Children?
A special image-based version of CogSpeed suitable to evaluate cognitive processing abilities of young, pre-literate children is also under development for research purposes. Call Gray Matter Metrics to discuss your individual research requirements.

CogSpeed FOR SPORTS APPLICATIONS

How can CogSpeed used in sports?
By determining the sensitivity of CogSpeed to brain trauma and concussion effects, CogSpeed could be used on any sports field to instantly assess the severity of blows to the head. The testing can be done at any time, especially during practice sessions when trainers and medical personnel may not normally be in attendance.

NOTE: CogSpeed is NOT a diagnostic test to make return to play decisions, but it does capture important information that can help speed the decision to obtain medical treatment. A "normal" CogSpeed score would not necessarily mean no head injury had occurred. But a very low score would indicate the player should be prevented from returning to play and given immediate medical attention. The benefit of an objective assessment is that it can prompt coaches to take quick action and makes them aware of the importance of taking potential brain trauma seriously.

How would this assessment program work?
All players would provide a baseline score at the beginning of the activity, and be tested again whenever a severe blow to the head was suspected. In addition, because CogSpeed can be so easily and quickly administered, all players can be routinely retested at the end of the activity to insure no head injury went undetected.

Are there other uses in sports?
In addition, athletes may find CogSpeed useful in monitoring their daily fatigue levels to regulate their training regimen and avoid overtraining.

MEDICAL SUPPORT

How can CogSpeed support the Medical Community?
It is important to understand that CogSpeed is NOT a medical device and does not produce medical data or diagnoses. However, the type of information concerning cognitive decrement it does provide can be useful to medical personnel and in hospital settings.

As a neuropsychological test, CogSpeed can be used in a clinical context to help evaluate the extent of cognitive performance decrement due to brain trauma. It could be used to assess impairment after an injury or illness known to affect neurocognitive functioning such as stroke, concussion, or senility. For patients with brain injury, CogSpeed can assist in tracking progress in recovery during rehabilitation.

Taking the CogSpeed test also may provide therapeutic, measured cognitive stimulation to keep the brain active immediately after trauma.

CogSpeed can determine the baseline level of a patient's pre-operation cognitive functioning to compare to post-operation functioning. It could also be used to track recovery from anesthesia.

CogSpeed can track the extent of the temporary detrimental cognitive effects of chemotherapy and assist in monitoring the patient's recovery from those effects.

In nursing homes, CogSpeed can monitor the state and progress of senility, determine of extent of cognitive impairment caused by medication, and evaluate the overall energy level of residents.

CogSpeed can be used to obtain direct measurement of the fatigue levels of an entire hospital staff with minimal intrusiveness. The data can be collected with little interference to their daily routines. Cognitive processing abilities of interns and nurses can be easily analyzed to determine when their workload or schedules are creating excessive fatigue levels which may impact the quality of care they can provide.

This powerful information can lead to more effective management of the hospital's workforce and improve patient care by reducing of treatment errors. The Hospital Administration's attention to the problems caused by fatigue levels will also contribute to improving the staff's overall feelings of well-being and general health.

GOVERNMENT USES

How can Government Agencies use CogSpeed?
The federal and state governments could find many innovative uses for CogSpeed.

The military can use CogSpeed to continually evaluate a soldier or sailor's cognitive fitness for duty on long-duration missions to monitor their ability to perform their duties satisfactorily.

CogSpeed is an extremely economical screening measure for decline in cognitive performance with age. The test could be used by each state's department of transportation for screening of senior applicants to determine which ones need a thorough neurological examination to evaluate their fitness to drive.

The Federal Aviation Administration can monitor air traffic controllers for their cognitive fitness when they come on duty and throughout their shift.

There are many other government functions that involve hazardous operations requiring knowledge of their employees cognitive performance capability.

EDUCATION

How can CogSpeed be used in education?
CogSpeed provides students a very sophisticated research tool with little expense for Science Fair experiments concerning cognitive functioning.

CogSpeed can be used for classroom demonstrations and student research projects.

School administrators, counselors, and educators can determine their student body's overall "readiness to learn" level on a daily basis. With an established baseline, they can identify students who are chronically fatigued, not getting enough sleep, or have other cognitive performance problems. Counselors can then interview them to find out the root cause of their problem and provide assistance.

Human RISK ASSESSMENT and MANAGEMENT - HuRAM

What is HuRAM?
HuRAM stands for Human Risk Assessment and Management. It is the vision for future development of evolving CogSpeed technology into a centralized world-wide human performance monitoring system. Eventually, traditional methods of security would be enhanced by adding another layer of reliability to personnel identification information: not only is a person they really who they say they are, but also verified that they have the cognitive performance capability for access to a high risk job, throughout their duty cycle.

CogSpeed can quickly and accurately measure instantaneous information processing speed, which is closely associated with how well one can perform complicated real-world tasks. If processing speed is

below normal, it indicates a high risk of performance impairment, and the worker should not be given access to sensitive or critical operations. Access to any number of activities considered high risk could efficiently be managed, such as aviation occupations, hazardous truck driving, ocean-going shipping, complex computer networks, nuclear power plant control, military campaigns, operating rooms, even contact sports.

See COGNITIVE RISK ASSESSMENT FOR CONTINUAL ACCESS AUTHORIZATION

How Does HuRAM work?

HuRAM integrates CogSpeed technology with a world-wide, 24-hours site capable of monitoring entire companies. After CogSpeed instantly assessed an employee's performance risk from fatigue, alcohol, and drugs with one measurement, it will provide immediate feed back to alert his management of his current condition. Then immediate corrective action can be taken when any employee becomes an unacceptable cognitive risk to himself or others.

A few of the examples of corrective actions for critical situations include taking a drunken truck driver off the road, pulling an exhausted pilot from a cockpit, removing a fatigued seaman from a ships' wheelhouse, prohibiting a drug-impaired worker from operating hazardous equipment, and preventing an impaired manager from access to sensitive computer systems. However, HuRAM could be used by virtually any business needing to quickly, easily, and economically screen their employees on a daily basis. The list is endless.

The overall concept of HuRAM is further explained in a copy of a presentation on the Gray Matter Metrics web site.

HuRAM

MONTHLY SUBSCRIPTION SERVICE

When will the Subscription Service be available?

The Subscription versions are under development. Until then, the current CogSpeed test will be made available for free, as it is now.

Check our CogSped Facebook page or graymattermetrics.com for the latest information.

What advantages will the subscription versions have?

The first version of the Subscription Service will provide the following features:

- **Your own Personal User Id and Password.**
- **Unlimited testing at any time, day or night, anywhere,**
    - **on any suitable smart phone or tablet with an Internet connection.**
- **If desired, Gray Matter Metrics will e-mail your scores to you immediately after test completion.**
- **Record Sleep Periods and Perceived Sleep Quality for comparison to CogSpeed scores.**
- **CogSpeed and ELSR scores will be displayed for download.**
- **All of your personal data will be stored using Top-Level SSL security measures.**
- **Your data is retained for 6-months after the after end of your subscription.**
- **You will receive unlimited E-mail tech support for any technical issue.**
- **You can contact us for suggestions on how to use CogSpeed.**
- **Bulk purchase discounts are available.**
- **No questions asked 30-Day money-back guarantee.**

In addition to the above, the more advanced version will collect, store, and display tables and graphs of all of your historical CogSpeed performance scores, ELSRs, self-reported sleep data, and perceived sleep quality arranged, by date and time of test. You can download this data to your home computer.

What will a CogSpeed subscription cost?
Various subscription options have yet to be finalized, but for the basic, individual, personal account, a six-month subscription will cost less than a dollar a month. Check out the subscription pricing schedule with advanced features when it becomes available on graymattermetrics.com .

How will the subscription service work?
A valid credit card will be required to pay for your subscription. The name that will appear on your statement is Gray Matter Metrics, LLC. Gray matter Metrics, LLC does not store or have access to your credit card information. Your credit card details will be securely encrypted and stored by a suitable third party so we can automatically bill you for whichever plan you select.

If the prices of the subscription plans change, we will give you 30 days notice of any change before your subscription ends.

Can Children use CogSpeed?
We have a Special Notice Regarding Children. Our Site is not designed for, nor do we knowingly collect, personal information from children under the age of **13.** Anyone under 13 years of age, should not provide personal information to us. To purchase the Subscription Service, you must be at least 18 years old. Children under the age of 18 may take the CogSpeed Test, but only with permission and supervision of a parent or guardian.

What if I want a refund?
You can delete your CogSpeed account any time and we will not charge you again. If you have a Subscription account, scores are always retained for at least six months past the expiration date of your subscription. If you re-subscribe during that period, your earlier data can be made available to you if you desire.

A full refund will be provided if requested before the login account is activated. You have a thirty-day money back guarantee once the account is activated. After that, a refund will be provided based on the pro-rated time remaining on the subscription.

No questions asked! (Except: “What did we do wrong?”)

TROUBLESHOOTING

What if I can't LOG IN?

Because CogSpeed is still in the development stage, you may occasionally not be able to login immediately. We we don't want the system to be overloaded or we may be working on modifications to the program.
So, if this happens, or you get an error message similar to ERROR - APP DATA NOT AVAILABLE, here's what to do:

GO TO YOUR BROWSER'S SETTING

CLEAR BROWSING DATA:

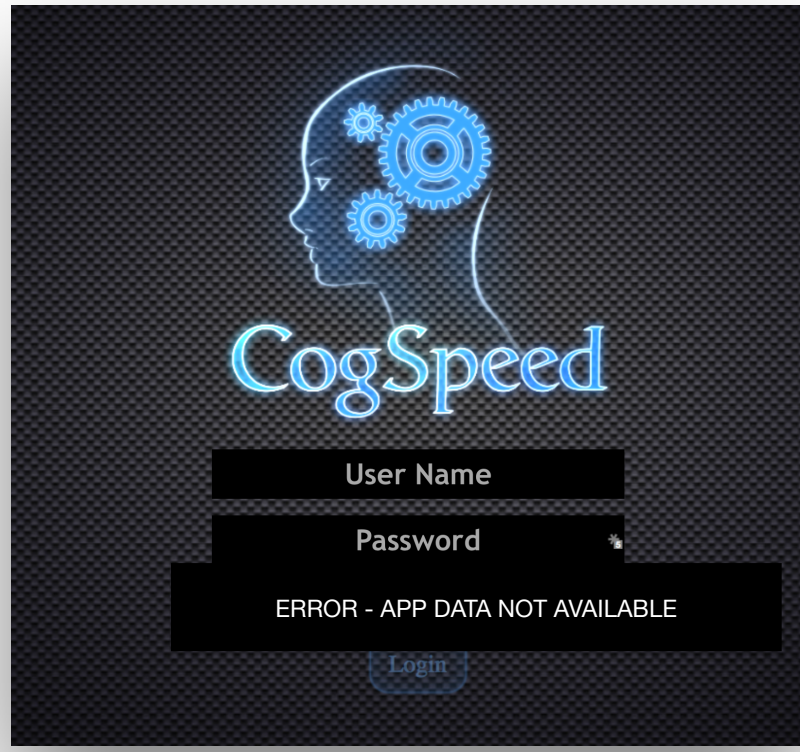
ON A MOBILE DEVICE USING CHROME
CLICK ON THE 3 DOTS IN THE BROWSER'S UPPER RIGHT

GO TO SETTING >
PRIVACY AND SECURITY

CLEAR CACHED IMAGES AND FILES

ON A MOBILE DEVICE USING SAFARI
GO TO SETTINGS > SAFARI

CLEAR HISTORY AND WEBSITE DATA



For further assistance contact Gray Matter Metrics at support.graymattermetrics.com

or Call 210-867-7172

THINK FAST!