

Live long. Live healthy.

THE SCIENCE BEHIND ISAGENIX





A WORD FROM SUK

Who knew that we could one day not only slow aging in our brains, but also increase our brains' decision-making speed, our balance, and our working memory?

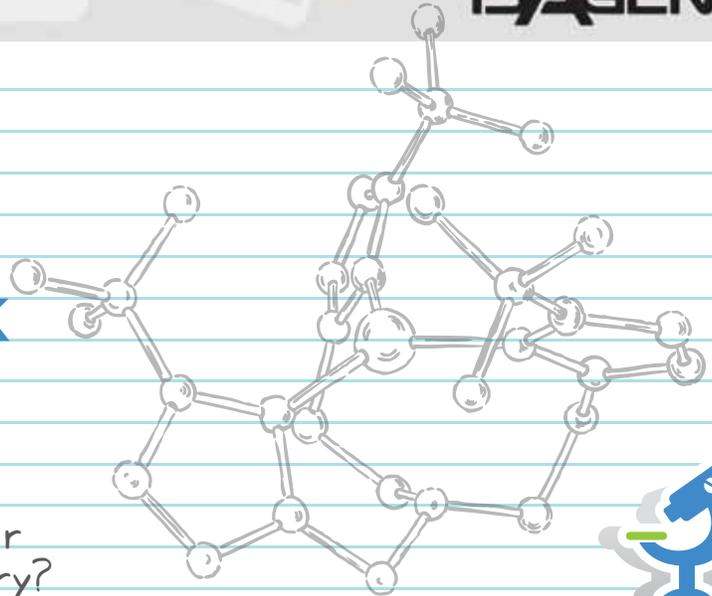
Isagenix delivers a powerful solution with the Brain & Sleep Renewal System. Now, you can learn all the details about the science behind our brain-protecting, youthful-aging system in this issue of our newly designed newsletter.

As you'll find out, the brain is a complex organ that requires multiple nutrients and compounds to protect it from factors that cause brain degeneration. In addition to diet, getting regular amounts of healthy sleep is essential for brain health and even regeneration of neurons—something previously thought to be impossible.

Your brain is your most important organ. Discover how to take care of it now and for your future.

Live well and adventurously!

Suk Cho, Ph.D.



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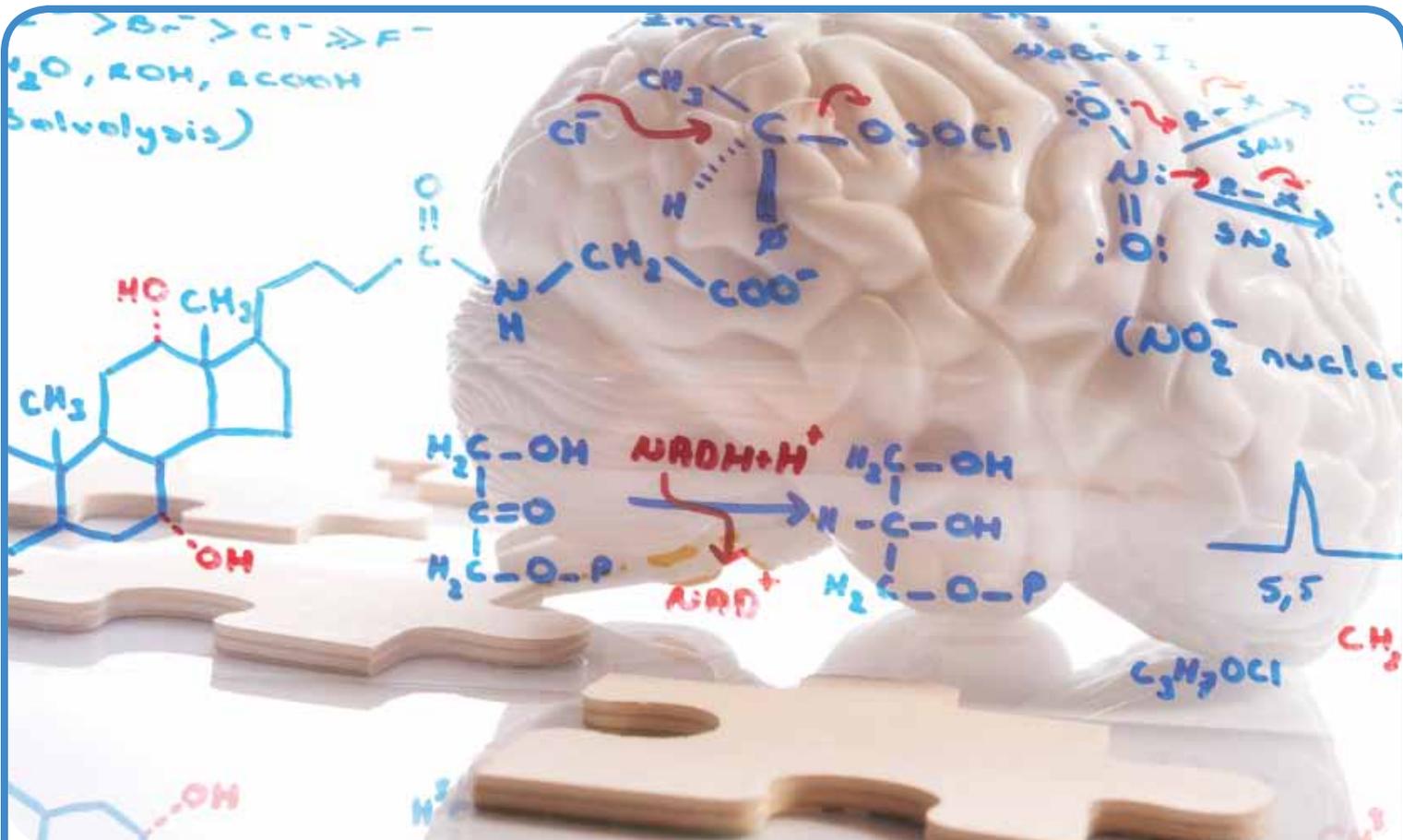
Eric Gumprich, Ph.D.
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COPYWRITING

Sara Richter, B.Sc.
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Gilleen Osterday, M.Sc., RD
Nutrition Communications Specialist

Katie Coles, M.Sc, RD
Research Nutritionist



Isagenix Brain Boost & Renewal Improves Cognitive Function in Middle-Aged Adults

If you thought cognitive decline was only a problem for the elderly, think again.

Recent research has shown that cognitive decline begins decades before symptoms actually appear. In fact, scientists have found progressive declines in memory, learning, attention, and decision-making in people as young as 35 years old.

Because of this looming threat, Michael Colgan, Ph. D., expert in brain aging, along with Isagenix scientists, collaborated on finding a solution for preserving brain health. More than 1,000 animal studies and human clinical trials have identified a number of individual nutrients that support different aspects of brain function. One of the major findings gleaned from these studies was that a synergistic blend of nutrients multiplies the power to support brain function beyond the use of individual nutrients alone.

Unlike other companies who use only one or two individual nutrients

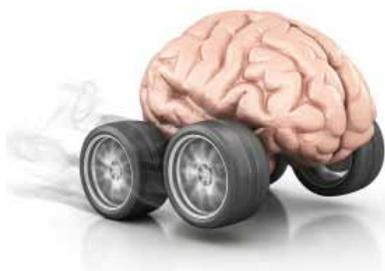
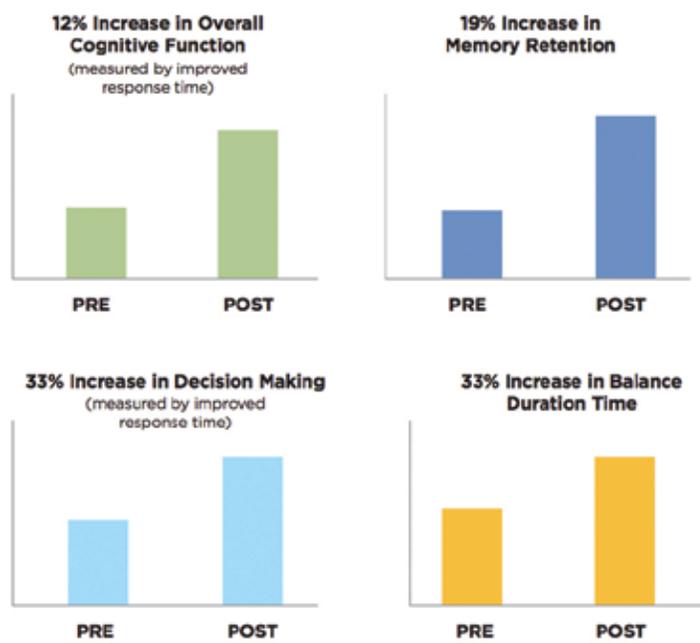
to support one or two brain functions, Isagenix has sought the best synergistic combinations to support multiple brain structures and functions. Taking from the most significant research, the Isagenix team came up with three different formulas of synergistic combinations of eight nutrients. By testing three different formulations in a clinical pilot study, the team was able to assess which product showed the greatest improvements in various cognitive tests to work alongside Isagenix products including Product B, IsaOmega Supreme, and IsaLean Shakes.

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Thirty-eight subjects received one of three developed brain products. Baseline cognitive evaluation of the subjects consisted of tests designed to analyze:

- **BALANCE:** Determines the accuracy that the brain receives, interprets, and processes information from various systems that control balance.
- **BRAIN SPEED:** Analyzes how quickly the brain can process information and convert it into an action.
- **WORKING MEMORY:** Assesses how well the brain can actively hold multiple pieces of information.
- **COGNITIVE FLEXIBILITY:** Determines accuracy of hand-eye coordination.

Brain Boost & Renewal Demonstrates Improvement in 6-week Clinical Study



After supplementation for 3 and 6 weeks, subjects returned for their cognitive re-evaluations. In just six weeks, the Isagenix Brain Boost & Renewal formula showed improvement in brain fitness, especially in memory and cognitive flexibility, compared to the other formulations.

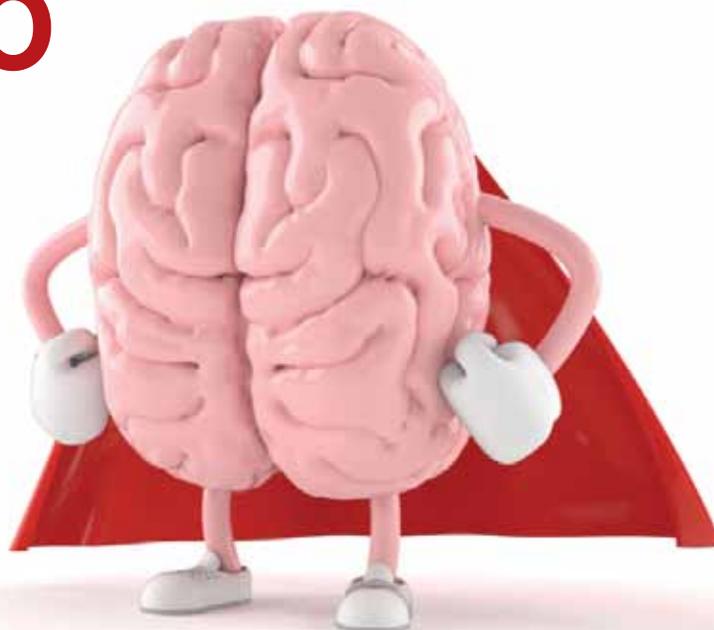
Isagenix introduced Brain Boost & Renewal at the 10th annual Isagenix Celebration this past August in Phoenix, and it could not have come soon enough. More and more research is showing that early action is key in delaying the onset of cognitive decline.

This comprehensive brain-protecting formulation is designed to guard mitochondria (the powerhouses of our cells) from oxidative stress, combat cellular reactivity, slow glycation (sugar toxicity on the brain and a major cause of premature aging), stimulate growth of neurons, and boost neurotransmitter function. (For information on how each of the ingredients work, see our article “Superhero Nutrients for Your Aging Brain”.)

Through these mechanisms, Isagenix Brain Boost & Renewal helps maintain memory and supports healthy brain aging by promoting mental focus, concentration, and decision-making.

“It’s never too early or late to start giving your brain everything it needs to build a long, healthy and sustained life,” states Colgan. “The best investment you will ever make is in the future health of your brain.”

SUPERHERO Nutrients for Your Aging BRAIN



Because of our aging population, research in brain health has been expansive and is looking for powerhouse compounds that can put an end to cognitive decline. Isagenix Brain Boost & Renewal is on the forefront of science, providing nutrients that have been shown to support mental focus, concentration, decision making, and memory function by maintaining normal metabolic activity in the brain. This proprietary formula, created in collaboration with Michael Colgan, Ph.D., includes powerful ingredients that have been clinically proven to enhance brain health.

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Meet the superheroes of Isagenix Brain Boost & Renewal and their special powers to fight cognitive decline and promote healthy aging:

COMMANDER-IN-CHIEF. Melatonin is nightly neuron fuel that plays an important role in brain development and healthy aging. It also works by resetting your sleep and wake cycle to encourage better quality sleep. The problem: melatonin production declines with age. For more info, turn to page 7.

THE CHISEL. Curcumin is a potent antioxidant dietary spice that has been used to promote good health in Chinese culture for thousands of years. Recent studies show it may help reduce formation of beta-amyloid proteins, which can build up in the brain and contributes to cognitive decline (1;2). Curcumin can chisel away dangerous beta-amyloid so it doesn't accumulate in the brain.

THE LOCKSMITH. Piperine is used as a "bio-enhancer," meaning that it promotes more uptake and better use of compounds such as coenzyme Q10, resveratrol, and curcumin.

Although the exact mechanism is unknown, it is thought to act as a key that stimulates transport in the gut and inhibits elimination, allowing for improved bioavailability (3;4). In other words, piperine unlocks the "doors" in the gut so bioactives can enter and stay in the body to do their job.

MR. POWER HOUSE. R-alpha-lipoic acid can cross the blood-brain barrier to protect against oxidative stress in the brain. It improves mitochondrial function; so, improving how brain cell use energy (5;6). R-alpha-lipoic acid is more effective when paired with acetyl carnitine, which by itself has shown to improve memory in laboratory animals (7-9).

THE CELL GENERATOR. Green tea (Camellia sinensis) is a powerful antioxidant and neuroprotector that can modulate blood flow in the brain, lathering it

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with important nutrients needed to function optimally (10;11). In a recent study, EGCG—a key component of green tea—was found to promote the generation of brain cells and contribute to improved short-term and long-term memory in mice (12). It is possible that EGCG works a similar way in the human brain.

TWITCH. Citicoline is a precursor for the neurotransmitter, acetylcholine (13). With the help of citicoline, acetylcholine can enhance the communication between brain cells, contributing to muscle activation and sensory perception.

THE SUPPRESSOR. L-carnosine is a dipeptide (two amino acids bound together) that can reduce glycation of brain tissue, a process of oxidation caused by a buildup of sugar-derived molecules on the brain (14). Glycation does to your brain what pouring syrup would do to a computer keyboard—creates a sticky mess that impairs functionality. When most people think of aging, they imagine gray hair, wrinkles, and

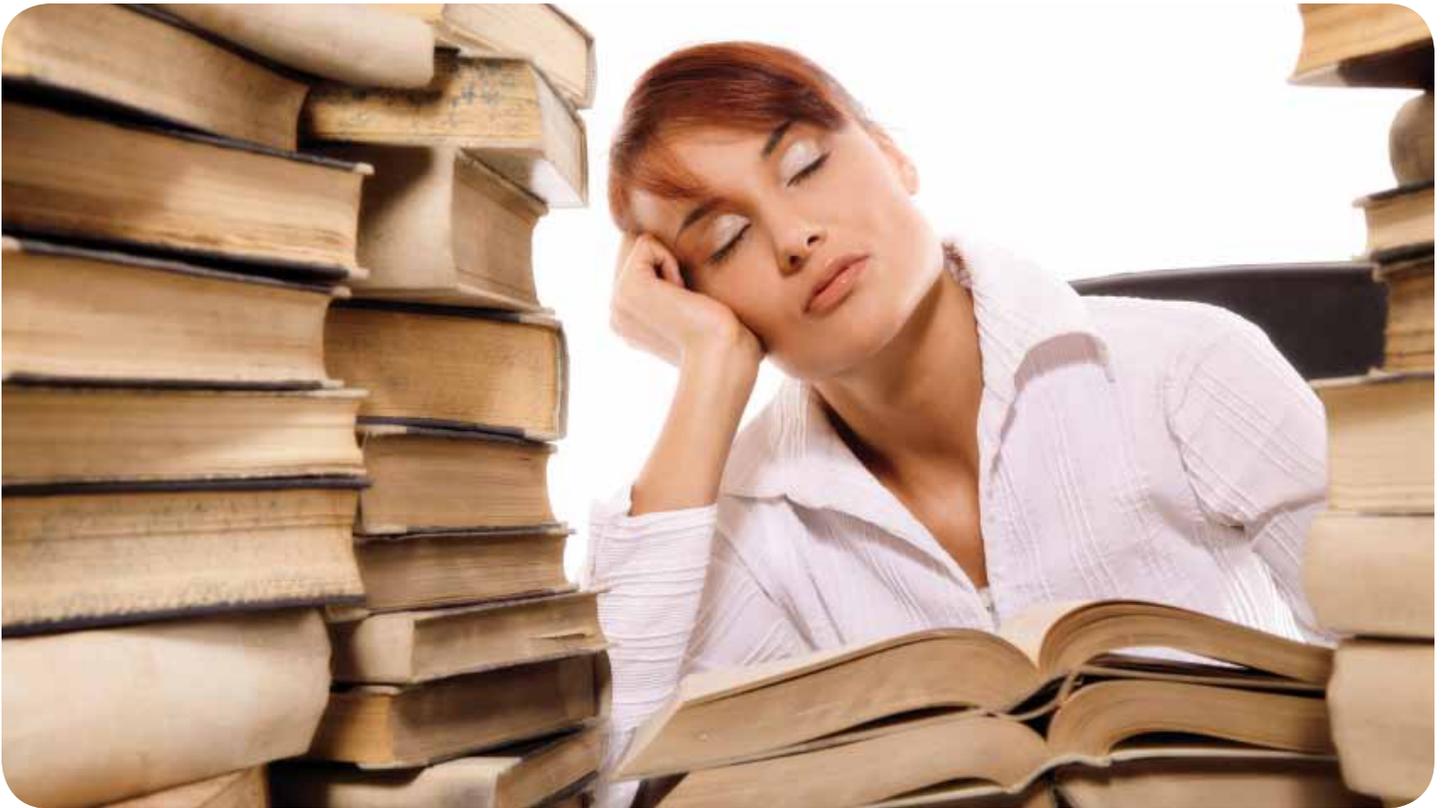
dentures; what is more important than the changes on the outside of the body is what is happening inside, especially in terms of the brain.

Our brains are ticking clocks, enduring physical change as we age, which manifests into impaired memory, decreased ability to learn, and weakened sensory perception. The causes of these changes are believed to be a combination of reduced cellular activity and oxidative stress that can lead to brain tissue shrinkage and inefficiency of neurotransmitters (chemicals that transmit signals between cells).

Don't let your brain health fall victim to the evil villain—get the superhero ingredients in Isagenix Brain Boost and Sleep Support System to improve memory and promote mental focus, concentration, and decision making. As Dr. Colgan says, “The best investment you will ever make is in the future health of your brain.”

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SLEEP YOUR WAY TO SMART

WHAT'S THE BEST WAY TO BOOST YOUR BRAIN POWER?

More and more evidence is pointing to quality sleep as the number one way to improve brain health.

Sleep helps facilitate five essential functions directly related to brain fitness including memory consolidation, organ repair, brain development, muscle growth and repair, and neurogenesis, which is the growth of new brain cells known as neurons (1-5). By getting enough quality sleep, your brain is able to perform optimally—increasing concentration, memory, and decision-making.

The sleep-wake cycle is controlled by “circadian” rhythms, which are characterized by a rhythmic release of hormones that induce a state of alertness or drowsiness depending on the molecular clock that is present in every cell of the human body. Although the human clock is endogenous (“built-in”), it can be disrupted by the external environment, including exposure to artificial light and irregular meal, work, and sleep times.

MELATONIN—SAFE, NIGHTLY NEURON FUEL. Melatonin is the commander-in-chief when it comes to circadian rhythms. This hormone is produced by the pineal gland in the brain. It is inhibited by light, which is detected by the retina and signaled to the brain, and permitted by darkness—this is why drowsiness sets in during nighttime.

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Recent research also shows the influential role melatonin has in brain development. Neurogenesis occurs during sleep and dramatically decreases with sleep deprivation. Studies indicate that supplementation of melatonin can re-establish circadian rhythm and increase neurogenesis in the hippocampus—the area of the brain that forms memories (6, 7).

Unfortunately, our ability to make melatonin declines with age. Melatonin levels begin to drop below optimal levels by about age 35 (8, 9). Without sufficient melatonin, you are more prone to sleep disturbances that can lead to poor quality sleep and ultimately accelerated aging of your organs, including the brain.

One in three Americans suffers from sleep-related problems. Lucky for us, Isagenix has a safe and effective solution—Sleep Support & Renewal contains immediate and time-released melatonin in a convenient spray combined with a concoction of relaxing ingredients including:



- **L-THEANINE** known for its calming and relaxing properties
- **VALERIAN** an herb used to help decrease nervous tension, excitability, and stress
- **CHAMOMILE** traditionally used for calming

Based on numerous studies and clinical use, melatonin is extremely safe when taking in the correct form, dose, and at the right time. Evidence supports melatonin’s ability to help people sleep longer and enables those who wake too early to fall back asleep again (9). Contrary to what many believe, if melatonin is taken correctly it does not act as a pharmaceutical sedative and will not induce a “hangover” effect in the morning. Rather, it helps reset the body’s sleep-wake cycle and improves the overall quality of sleep.

In a study of 170 patients aged 55 and over with a history of sleep problems, melatonin supplementation significantly improved quality of sleep as well as alertness in the morning (9). More importantly, the patients didn’t suffer from rebound effects after discontinuing the use of melatonin. In fact, it was evident that patients still benefitted after they stopped taking the melatonin, suggesting a sustained effect rather than just symptom management.

The first step to boosting brain power is getting enough quality sleep. Isagenix Sleep Support & Renewal is a safe and effective way to get the sleep your body and brain crave. The smart thing to do would be to keep it next to your bedside within easy reach for use every night.

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VISCERAL FAT MAY SHRINK YOUR BRAIN

Stopping or beating the middle-age spread comes with a number of health benefits for a variety of the body's organs—including your brain.

Weight gain in middle age has long been associated with faulty memory and thinking. However, researchers have only recently found the underlying causes for these brain-related problems. What's to blame? In two words: visceral fat—belly fat, but not the kind you can pinch; it's the fat within the belly that bathes your internal organs.

As heralded on previous occasions, visceral fat's health-robbing nature is explained by its tendency to release all kinds of pro-inflammatory compounds reaping havoc on the entire body. There's now plenty of reason to believe the brain suffers from visceral fat's antics, too.

In a recent study by the National Institute for Health, visceral belly fat was directly linked to faster brain shrinking. Researchers sampled 733 middle-aged participants and collected various body composition measures including waist-to-hip ratio, visceral fat tissue, and volumetric brain MRI scans. They found that those with higher abdominal fat measurements had significantly decreased brain volume.

Greater amounts of visceral fat had the strongest and most robust correlation of all. The findings lend support to what researchers have warned of consistently: cognitive decline may be directly related to visceral fat accumulation.

Lifelong health for you and your brain begins with an Isagenix system. One of the key findings of University of Illinois of Chicago clinical study was that subjects on an **Isagenix system** decreased visceral fat twice as much as those on a leading "heart-healthy" diet.

Add on other key brain products—**Ageless Essentials Daily Pack with Product B** and **Brain and Sleep Support System**—and what you have is a comprehensive solution for melting away visceral fat and saving your brain with Isagenix!

FOR MORE INFORMATION ON THE STUDY, PLEASE VISIT ISAGENIXHEALTH.NET.

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SLEEP WELL, AGE WELL

The snooze button—one of the greatest inventions.

For most people, the blaring alarm clock prompts a dreadful sigh of annoyance and a moan of exhaustion. “Five more minutes,” you tell yourself and press that heavenly button; but when the beeping starts again, you still feel groggy and deflated. Sound familiar?

Adults on average need 7 to 9 hours of sleep each night, but few actually get that much shut-eye. According to the National Center on Sleep Disorders, 90 million people have difficulty sleeping which can greatly affect health and wellness and promote the development of chronic disease and accelerated aging.

Sleep is not a passive process; in fact, it is a very active time for your body to grow, develop, and recover. If sleep is cut short, the body does not have enough time to repair muscle, consolidate memories, or release hormones needed for growth and appetite regulation. Studies show that lack of horizontal time impairs these physiological processes and may lead to weight gain, accelerated aging, or disease.

SLEEP AWAY THE POUNDS. If you ask someone what they are doing to lose weight, it is highly unlikely that their answer will be to sleep more. However, evidence has linked inadequate sleep with obesity. A recent study of 123 obese adults showed that those who reported obtaining a more restful sleep lost more weight than those who did not (1). Every additional hour of sleep was associated with a 0.7 kilogram loss in body fat. So, how does restless sleep lead to excess fat?

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The Isagenix Brain Sleep Support System is an ideal way to achieve restful sleep and support healthy brain function.



It is possible that living against our natural human clock is the culprit. Thanks to Thomas Edison and the invention of the first light bulb in 1879, we can now work, socialize, and play 24 hours a day, 7 days a week. A paper published in Bioessays suggests defying the natural “circadian” rhythms (which influence our sleep wake cycle) can disrupt the systems in the brain and hormones that regulate metabolism, increasing the risk for obesity and related disease such as diabetes.

SLOW AGING. In addition to weight maintenance, sleep may also help slow the aging process. Telomeres, the end-caps on DNA strands that protect it from damage, appear to be shorter and thus less protective in those who have difficulty catching Z’s. In the Journal of Aging Research, scientists found that women who reported poorer quality sleep had significantly shorter telomeres, indicating a higher risk for age-related disease (2). Lifestyle plays a major part in healthy aging, with quality sleep at the forefront.

As a result of excess weight gain and telomere shortening, you are more at risk for developing age-related diseases (such as diabetes and hypertension) if you do not get enough quality sleep. Even short-term sleep deprivation can have a significant effect on your ability to make decisions, concentrate, work, or exercise at optimal levels.

The bad news is that if you currently have difficulty sleeping, it may only get worse. Science shows that our “sleep architecture” changes with age—50 percent of people over the age of 60 say that they have difficulty sleeping. Ever notice the older men sitting outside of a department store in the mall, so deep in sleep that they are snoring absurdly loud? Older people need just as much sleep as all adults (7 to 9 hours), but they are more likely to wake frequently throughout the night. That is one reason why many nap during the day—to catch up on the sleep they missed.

SLEEP IS AN ACTIVE PROCESS. When you sleep, your body goes through alternating patterns of REM (rapid eye movement) and NREM (non-rapid eye movement). This cycle repeats itself about every 90 minutes. During NREM, the onset of sleep begins and is evident by regular breathing and a drop in body temperature. Slowly, blood pressure drops, muscles are increasingly relaxed, tissue and growth occurs, and energy is restored. Hormones (such as Growth Hormone) are released to promote growth and development. After about 90 minutes of sleep, your body enters REM which provides energy to your brain, support for daytime performance, and complete rejuvenation. Restless sleep interrupts these cycles and interferes with the body’s natural process of healing, restoring, and rebuilding.

To avoid sleep-walking through the day, make your health a priority and get the recommended amount of sleep needed each night. Isagenix Sleep Support & Renewal System can help by increasing natural sleep time, resetting the body’s sleep-wake cycle, and promoting healthy aging of the brain. The snooze button will no longer be needed when you are getting quality sleep—instead, you will wake up feeling refreshed and renewed, and your body will thank you.

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SAVE YOUR BRAIN WITH ISAGENIX®

INTERESTING STATISTICS/FACTS:

Your brain is about two percent of your body weight but uses 20 percent of your body's energy.

There are over 89 billion neurons in the brain. That is more than the number of stars in our galaxy.

THE HUMAN
brain is
COMPLEX
adaptive
EVERCHANGING



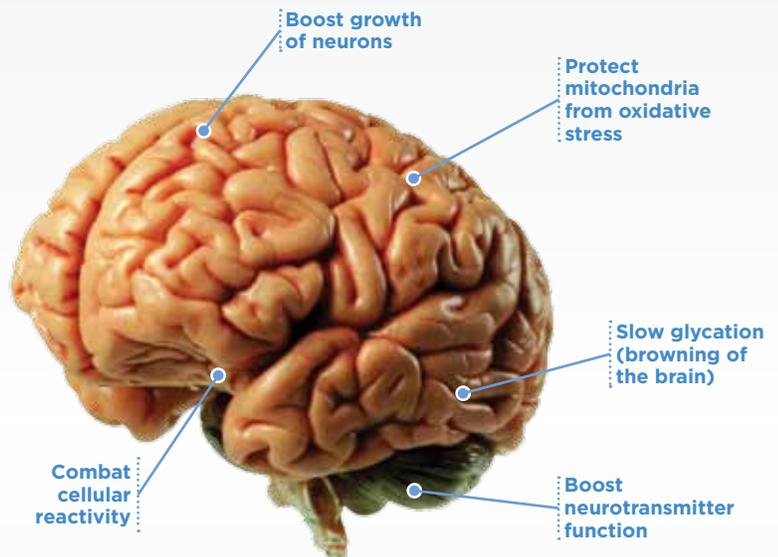
INTERESTING STATISTICS/FACTS:

Cognitive impairment is not just a problem for the elderly—it is a progressive decline of brain function that begins decades before it shows.

Neurogenesis (neu.ro.gen.e.sis) – Formation of nervous tissue; birth of neurons

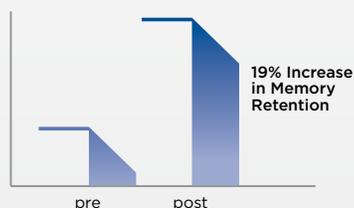
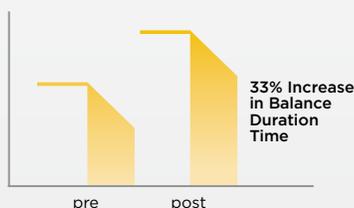
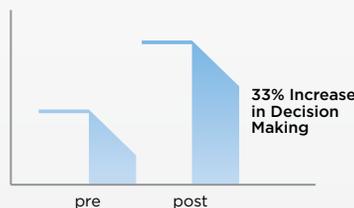
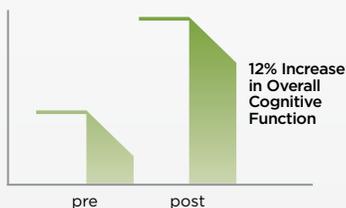
NEURON NUTRITION

- Isagenix Brain Boost & Renewal is formulated by Dr. Michael Colgan, expert in brain aging, and the Isagenix Research and Science team.
- It is a proprietary formula containing curcumin, piperine, L-carnosine, and other brain-friendly nutrients to promote mental focus, concentration, decision making, and memory.
- Contains ingredients to act synergistically to:
 - Protect mitochondria from oxidative stress
 - Combat cellular reactivity
 - Slow glycation (browning of the brain)
 - Boost growth of neurons
 - Boost neurotransmitter function



“The Brain and Sleep Support System is the best investment you will ever make in the future health of your brain.”

Dr. Michael Colgan
PH D., CCN



CLINICAL STUDY

- In a clinical pilot study, cognitive assessment scores increased significantly after 6 weeks of supplementation with the Brain Boost and Renewal Formula. Benefits to the subjects included improved balance, memory, speed, and overall cognitive function when compared to their pre-intervention scores.
- With about half of people over age 50 reporting memory problems and one in five over age 70 reporting problems with cognitive function, the time to take care of your brain is now.

FOR MORE INFORMATION, VISIT ISAGENIXHEALTH.NET