

CONTENTMENT

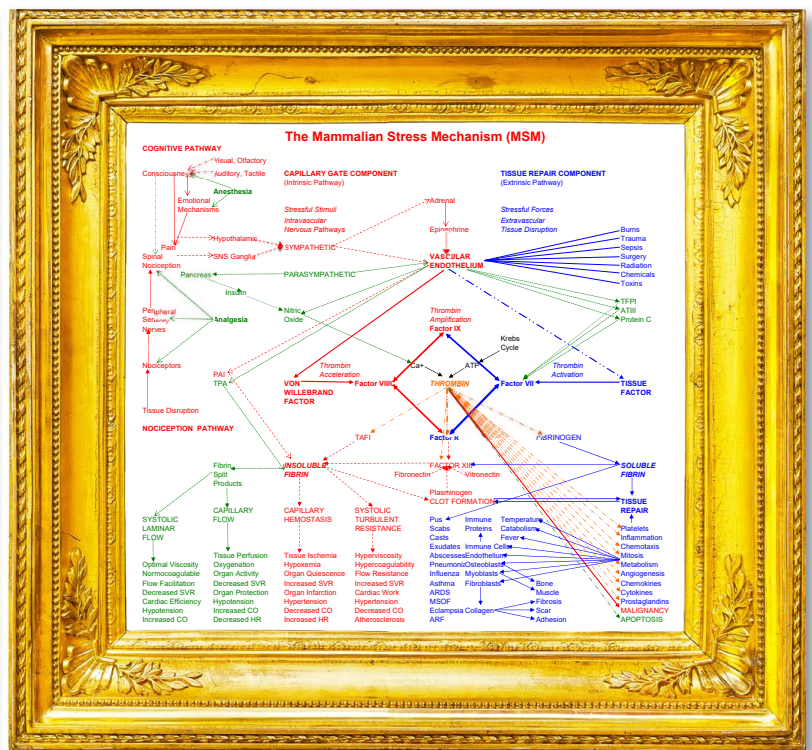
Your source for science-based stress management information

Volume 10 Number 4

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Lewis Coleman's Landmark Discovery in the Science of Stress

The stress mechanism is complex, beautiful, and a force of nature. It normally functions efficiently and unobtrusively to supply oxygen and nutrients to cells throughout the body, to maintain and repair tissues when they are injured, regulate blood flow, breathing, digestion and excretion. Combinations of tissue damage and hyperactive nervous system activity can overwhelm the stress mechanism causing it to waste the body's resources and produce excessive and defective substances that damage tissues and disrupt organ function. This manifests as disease. After working on it for over 20 years, Dr. Lewis S. Coleman has uncovered the Mammalian Stress Mechanism originally proposed by Hans Selye, explaining how the relationship between illnesses and the environment stress us, and how our bodies respond by repairing us and making us whole again. This Unified Theory of Medicine and Biology explains how treatments that restore normal stress mechanism activity can cure disease and save lives. This is the zenith of 20th century science and the most important advance in the history of medicine and biology for the 21st century.



“The full implications of this compendious work could well alter all fields of medicine if research based on these ideas bear fruit.” W.A.C. Mutch, MD, FRCPC

Inside: **Introducing Lewis S. Coleman, MD, FAIS Our New Chair of Science and Education • How Emotional Stress Can Kill You, By Lewis S. Coleman • Dealing with Stress Beyond COVID, By Evian Gordon and Donna Palmer • Thriving in Chaos: Managing Change in Your Life, By Jeff Jennigan • Managing Holiday Stress with Mindfulness, By Jacinta M. Jiménez • Moving Through Stress with Body Awareness, By Ashley DePaulis • Holiday Bliss and Your Endocannabinoid System, By Sharon Montes**



The mission of AIS is to improve the health of the community and the world by setting the standard of excellence of stress management in education, research, clinical care and the workplace. Diverse and inclusive, The American Institute of Stress educates medical practitioners, scientists, health care professionals and the public; conducts research; and provides information, training and techniques to prevent human illness related to stress.

AIS provides a diverse and inclusive environment that fosters intellectual discovery, creates and transmits innovative knowledge, improves human health, and provides leadership to the world on stress related topics.

Your source for science-based stress management information

CONTENTMENT

We value opinions of our readers.

Contentment is a quarterly magazine published in Spring, Summer, Fall and Winter with news and advertising designed with the general public in mind. It appeals to all those interested in the myriad and complex interrelationships between stress and health because technical jargon is avoided and it is easy to understand. *Contentment* magazine is indexed by EBSCO and archived online at stress.org. Information in this publication is carefully compiled to ensure accuracy.

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The American Institute of Stress is an executive producer of Body Electric: Electroceuticals and the Future of Medicine, a documentary film aimed to revolutionize the way we think about health and the human body. This 68 minute movie, by British producer/director/writer Justin Smith, is available online and on DVD for purchase through AIS.



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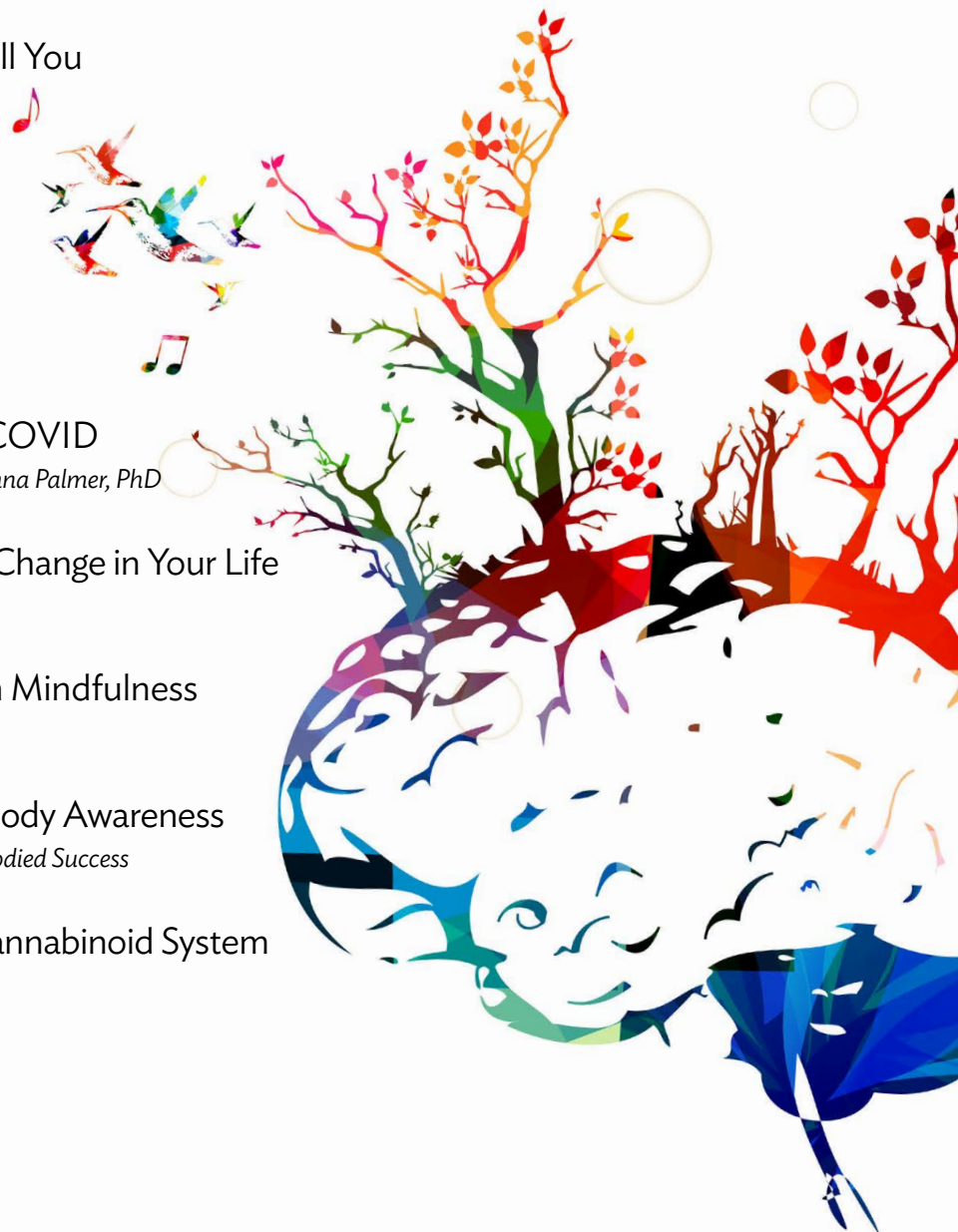
For so many Americans, “mysterious” problems ranging from mild to severe are caused by that scourge of modern life – stress. That realization is the first step toward healing, but it often raises many more questions that must be addressed. How is stress affecting my life? My relationships? My work? My happiness? What can I do to reduce or better cope with it? Our Stress Mastery Questionnaire – an easy and confidential online self-assessment that comes with our Stress Mastery Guide and Workbook – can help you find answers. And life-changing solutions.



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Editor's Message

Cynthia Ackrill, MD, PCC, FAIS
Editor



What an incredible privilege it is to bring you this issue of *Contentment Magazine*. How often do you get to deliver a landmark discovery? The Unified Theory of Medicine and Biology by **Lewis Coleman, MD, FAIS** explains how treatments that restore normal stress mechanism activity can cure disease and save lives. He spent 20 years building on this Institute's founder, Dr. Hans Selye's original theory of stress to develop The Mammalian Stress Mechanism. So many articles in these pages and elsewhere discuss overly simplified explanations of how our physiology is based on stress mechanisms, explaining how we are programmed to act like predators or prey. Now Dr. Coleman explains precisely how we respond to stressors. Understanding this will change the way you look at how we interact with our thoughts and environmental stressors. This knowledge can change your life. Though traditionally, medicine has been slow to embrace new science, I hope his work spurs on many more possibilities to restore health and happiness and look forward to Dr. Coleman's regular contributions to *Contentment*. This first article helps you truly understand why emotional adversity is a major contributing factor in disease causation.

Evian Gordon, MD, PhD, FAIS, and **Donna Palmer, PhD** share some of their conclusions from their impressive Total

Brain database. Their research and database allow them to quantify stress effects and the effectiveness of different interventions. How wonderful to see proof of what really works! For this issue they present and discuss the rates of stress tracked during the entire COVID pandemic and offer 5 calming techniques that have been proven to reduce stress levels.

As many of us are weary of the disruption of the pandemic, **Jeff Jernigan, PhD, BCCPC, FAIS** offers a great perspective on our relationship with change and how to thrive in troubling times. He reflects on his grandmother's life filled with enormous changes and acceptance, and in contrast, the rising rates of adults acting out in response to ongoing challenges. He discusses psychological first aid to help us see our choices in the face of change, and to rebuild our reserves to handle stress.

Once again, the holidays are upon us, bringing more to do and handle — a great time to put some of this science to work for us. The next 3 articles offer ways to do just that. **Jacinta M. Jiménez, PsyD, FAIS** looks at 3 opportunities to use mindfulness to take the sting out of stress. We do know that all the little moments of distress add up, as do the moments when we reset and restore. Mindful choices help balance the equation and are available even in the situations that tend to trigger stress. Her tips for mindful meals, mindful connections, and mindful travel will assure that you thrive this holiday season and beyond.

Ashley DePaulis, MPH works with using the body to build awareness and mitigate stress through movement. She reflects on how the pandemic has affected our movement patterns and she discusses the 7th sense, interoception or the awareness of our internal state, one of the subtle senses that is seldom trained. She offers ways to build this awareness and a menu of ways to incorporate mindful movement into our busy holiday season and beyond.

Sharon Montes, MD, FAIS is back with more science we were not taught in medical school. She looks at the role of the endocannabinoid system in stress and bliss. Our bodies have this intricate system of communication between our 40 trillion cells, helping us regulate and ideally balance the immune, nervous, and endocrine/hormone systems. While we are hearing about CBD supplementation everywhere, Dr. Montes discusses endocannabinoids naturally produced in our bodies, in particular, anandamide, or the “bliss molecule.” She shares specific techniques to increase your own levels of anandamide and experience more bliss — the perfect gift.

What a packed issue! I hope you enjoy digesting this new science and playing with ways to use it to reduce your stress.

Wishing you health and happiness this holiday season and throughout the coming year,

Cindi

STRESSED?

Stress is an emotional habit, an indicator there's a puppy upstairs [your brain], chewing up your house, your shoes and your underwear. Learn how to train the puppy and begin your path to stress elimination.

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Introducing **Lewis S. Coleman, MD, FAIS** **Our New Chair of Science and Education**

The stress mechanism is what everyone has been waiting for since the discovery of DNA.

As the newly appointed Chair of Science and Education of The American Institute of Stress (AIS), I would like to introduce myself. I am an expert on stress theory by virtue of the fickle finger of fate. As a board-certified anesthesiologist, my practice seeks to prevent the potentially lethal stress reaction caused by surgery. I completed my training at a time when clinical anesthesia research sought better ways to control stress and optimize surgical outcome using narcotic supplementation, but this laudable objective was frustrated by the paradoxical dogma that founded the profession, which asserts that carbon dioxide is “toxic waste, like urine” that must be “rid from the body” using mechanical hyperventilation lest its toxic and narcotic effects cause harm. This scientific insanity is arguably more outrageous than the notion that the world is flat.¹ It has killed countless patients, but it helped to focus my attention on the dogma and paved the path to my discovery of the mammalian stress mechanism.

Dr. Paul Rosch, the previous AIS President, was a member of the faculty at my medical school, New York Medical College. He was a protégé of Dr. Hans Selye, the father of stress theory, and he helped to found the AIS along with prominent 20th century scientists and individuals interested in the effects of stress on health.

My basic sciences training at New York Medical College miraculously coincided with the two-year sojourn of Dr. Johannes Rhodin, who was retained by the school to upgrade its curriculum, so that I enjoyed his academic improvements. Dr. Rhodin was a world-famous pioneer of electron microscopy, and

an expert on stress theory, which by that time had dominated medical research for thirty years but was being abandoned for failure to find a testable mechanism that could confirm the theory. He was concerned that stress theory might be forgotten altogether, and he provided compelling stress theory lectures in hopes that one of us might remember the theory and somehow discover the mechanism needed to confirm it. Little did I expect that I would become that student, but life is what happens while you are making other plans.

Thirty years later, I stumbled upon fresh information that nervous activity releases von Willebrand Factor from the vascular endothelium into blood, and I immediately suspected that this represented an undiscovered physiological mechanism. This inspired an extensive review of research literature using the Internet and advanced computer search technology that hadn't existed when I was in school. After six years, I realized that I had found the long-sought stress mechanism. It was hiding in full view, disguised as the familiar coagulation cascade, like the proverbial elephant in the living room.

Success comes after a lifetime of dedicated toil, but science is seldom so kind. Dr. Selye died forgotten and frustrated, around the time I finished medical school, and Dr. Rhodin died 30 years later, even as his dream was being fulfilled. Like them, my chances of witnessing the fruits of my endeavors are negligible, but I am assuaged by their inevitability.

The stress mechanism is what everyone has been waiting for since the discovery of DNA. It represents the triumph of 20th century medical science and the most important event

in medical history. It is far more important than the discovery of DNA, because it explains physiology, pathology, and stress. It normally functions quietly and unobtrusively, but it causes disease when it becomes hyperactivated by combinations of tissue disruption and nervous stimulation. This understanding enables powerful, predictable treatments that can save lives and slash expenses by disrupting the destructive effects of stress mechanism hyperactivity, and restoring the body's ability to heal itself. It paves the path for profitable pharmaceutical development that introduces a new era of health, longevity, and freedom from the eternal curse of disease and premature death.

In retrospect, what happened was a predictable pattern of scientific advance, as described by Thomas Kuhn's book called **The Structure of Scientific Revolutions:**



powerful scientific theories arrive long before accumulating evidence enables unknown amateurs to confirm them. It's no accident the stress mechanism was so hard to find. It is complex, counterintuitive, and at odds with orthodoxy. The old stress researchers came closer to success than they ever imagined but for a few tidbits of critical information that emerged during the 30 years since stress research was abandoned, and clarified the relationships of nervous activity, blood enzymes and tissue repair. The stress mechanism incorporates their capillary gate and tissue repair concepts. As they expected, it functions as the "companion mechanism" of DNA that converts the genetic blueprint into embryological development and remains active throughout life to repair tissues and regulate physiology, while DNA resumes quiescence. As Selye predicted, it explains the nature of disease.

The hallmark of powerful theory is its ability to predict and explain disparate phenomena. Though stress theory originated as a purely medical concept, it exceeds the bounds of medicine and confers a unified theory of biology that explains embryology, evolution, ethology, intelligence, anatomy, taxonomy, the Cambrian Explosion, and dinosaurs. It resolves the disparities of Darwin, Lamarck, Baldwin, and saltation. It paves the path to abolish genetic defects and enable humans to control evolution, revolutionize farming, and optimize intelligence, anatomy, longevity, and exercise capacity.

Stress theory is truly revolutionary, and it antiquates all existing medical literature.

To promote its understanding and acceptance, I have established a website, www.stressmechanism.com, that offers free downloads of my published papers and other relevant materials. In addition, I have published a book called **50 Years Lost in Medical Advance: The discovery of Hans Selye's stress mechanism** that summarizes my search, explains the mechanism, and explores its implications. It is available on Amazon. I hope that AIS members will take the time and trouble to read the book, spread its message, and promote the restoration of stress theory to its rightful role as the prevailing paradigm of medical and biological research.

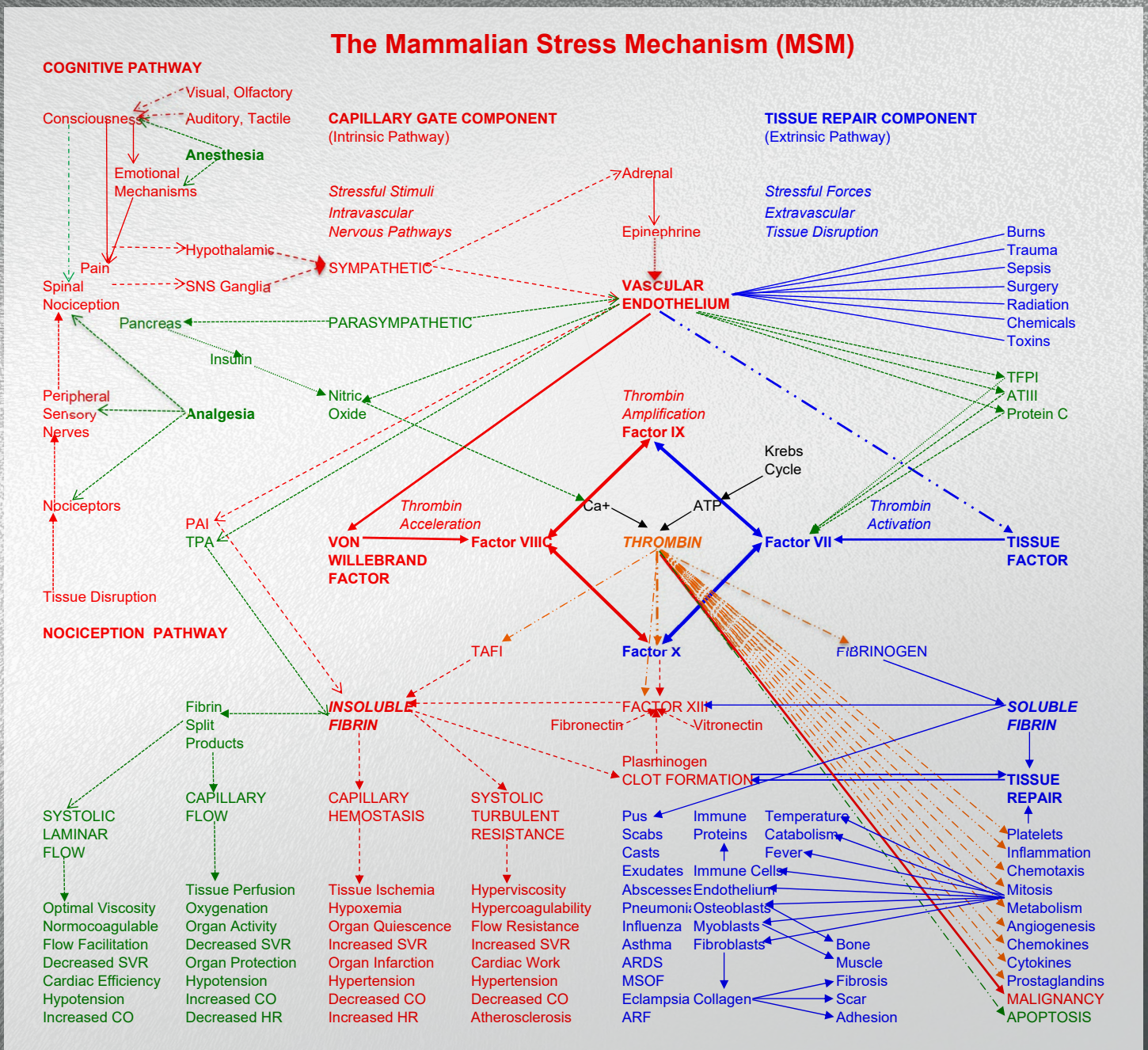
I will be offering articles pertinent to stress theory at regular intervals that review specific aspects of stress mechanism operation and the treatments it indicates. What follows is the first of these endeavors.

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1. L. S. Coleman, *Four Forgotten Giants of Anesthesia History*. *Journal of Anesthesia and Surgery* 3, 1-17 (2015).

Though stress theory originated as a purely medical concept, it exceeds the bounds of medicine and confers a unified theory of biology that explains embryology, evolution, ethology, intelligence, anatomy, taxonomy, the Cambrian Explosion, and dinosaurs.

How Emotional Stress Can Kill You



By Lewis S. Coleman, MD, FAIS

As American Institute of Stress members know, fear and anxiety are harmful to health, but how this happens has remained unknown. Now, for the first time, the mammalian stress mechanism explains how emotional adversity promotes disease and death. However, emotional adversity seldom acts alone. It synergizes with other environmental stressors including pollution, pathogens, radiation, toxic chemicals, surgery, and trauma to induce stress mechanism hyperactivity that causes disease.

The Mammalian Stress Mechanism

The mammalian stress mechanism is ubiquitous throughout the body. It consists of the following elements:

1. The interaction of blood enzyme factors VII, VIII, IX, and X with tissue factor in extravascular tissues.
2. The vascular endothelium, which is a delicate layer of specialized cells that lines the inner

surface of all blood vessels and isolates tissue factor from the blood enzymes. Endothelial damage exposes tissue factor to blood enzymes and elevates stress mechanism activity.

3. The autonomic nervous system, which releases hormones from the vascular endothelium to regulate stress mechanism activity.

The stress mechanism diagram to the left illustrates its various elements, relationships, and effects.



Certain stressors, especially bacteria and viruses, produce distinctive stress mechanism reactions that enable their diagnosis, and this, combined with germ theory and cell theory, has fostered the notion that each disease is a separate entity unto itself that must be diagnosed and cured using specialized treatments.

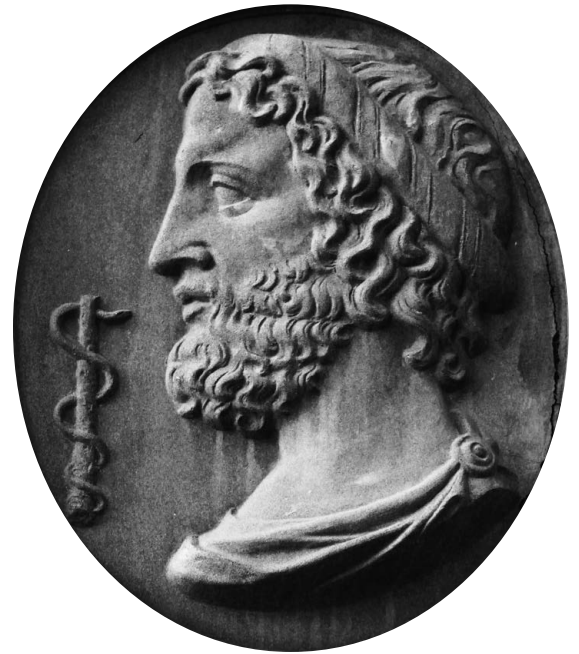
The subtleties of the stress mechanism challenge book limitations, but the diagram at least illustrates the rudimentary associations of emotional activity with blood enzymes and their consequences for the purpose of this essay. Please refer to the diagram as you proceed through this presentation. Emotional adversity is harmful because it generates nervous activity that hyperactivates the stress mechanism via the “Cognitive Pathway” that is portrayed in red in the upper left-hand portion of the diagram. Tissue disruption that hyperactivates the stress mechanism is portrayed in blue on the right-hand side of the diagram.

The Stress Mechanism and Disease

The stress mechanism operates continuously, efficiently, and unobtrusively to repair tissues and regulate physiology, but like any mechanism, it has limitations. When its limits are exceeded, it wastes and depletes its substrates, generates harmful or defective excesses of its products, and produces a bewildering blizzard of destructive disease effects that disrupt physiology and damage organs and tissues, and variously manifest as fever, fatigue, malaise, inflammation, immune activity, cell proliferation, tissue edema, pus, exudates, rashes, pustules, hypercoagulability of blood, organ dysfunction, dementia, delirium, sclerosis, infarction, accelerated capillary senescence, atherosclerosis, and amyloidosis.

Greek physicians understood that disparate stressors acting in concert produce nondescript disease:

“Illnesses do not come upon us out of the blue. They are developed from small



daily sins against Nature. When enough sins have accumulated, illnesses will suddenly appear.” — Hippocrates

Certain stressors, especially bacteria and viruses, produce distinctive stress mechanism reactions that enable their diagnosis, and this, combined with germ theory and cell theory, has fostered the notion that each disease is a separate entity unto itself that must be diagnosed and cured using specialized treatments. This viewpoint fails to explain the commonality of disease manifestations (e.g., fever, fatigue, malaise, inflammation, edema, rashes etc.) and the associations of seemingly unrelated diseases. For example, diabetes, hypertension, obesity, and cancer are closely associated. Stress theory explains these observations. It indicates that disease usually results from combinations of environmental stresses, and that universal treatments that restore normal stress mechanism activity and organ function are beneficial in all forms of disease.

Consciousness

The nature of consciousness remains one of the great mysteries of biology.

It is generated by the cerebral cortex, and it continuously interprets all forms of sensory information and combines this with memory to produce a computer-like conceptual comprehension of environmental circumstances. It interprets optic information as sight, olfactory information as smell, tactile information as touch, auditory information as sound, and nociception as pain.

Nociception

Nociception is nervous activity generated by tissue disruption sensors located in organs and peripheral tissues called “nociceptors.” Nociception is conducted via sensory nerves to specialized spinal cord nociception pathways that convey nociception to the cerebral cortex.

The spinal cord nociception pathways also communicate nociception to sympathetic ganglia located in the

neck, chest, and abdomen. These ganglia release von Willebrand Factor (VWF) from the vascular endothelium into flowing blood, which accelerates thrombin generation to produce insoluble fibrin that enables coagulation and capillary hemostasis to stem blood loss in the event of trauma.

In the absence of trauma, sympathetic nervous activity generates insoluble fibrin to enable a “capillary gate mechanism” that regulates microvascular flow resistance. This determines cardiac output, cardiac efficiency, tissue perfusion, tissue oxygenation, and organ function in accord with autonomic balance. This is normal stress mechanism operation. However, when sympathetic nervous activity is prolonged and excessive, it invites infarction, systemic inflammation, and amyloidosis that causes chronic illnesses.

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Prolonged sleep deprivation is lethal in most people, but there are those who don't require sleep or dreaming.

The Emotional Mechanism

Unlike the stress mechanism, which maintains and repairs the body, the emotional mechanism is an “emergency mechanism” which enables “fight or flight” that preserves life and prevents injury in life-threatening circumstances, such as being chased by a predator. The emotional mechanism consists of a memory mechanism and a dreaming mechanism. These two mechanisms work together to facilitate “fight or flight.”

The Memory Mechanism

The memory mechanism automatically retains a detailed audiovisual “movie” of all waking moments from infancy to the end of life. This was accidentally discovered by Dr. Wilder Penfield, a neurosurgeon who sought to control epilepsy by surgically excising damaged brain tissue. He inserted tiny electrodes to stimulate various portions of the brain in conscious patients and his electrodes elicited childhood memories. Years later a patient named Jill Price sought the help of memory experts at UC Irvine because her distracting memories disrupted her ability to function.¹ The UC professors confirmed her condition and called it “Hyperthymestic memory.”² Since then, several other patients have been discovered. Milder cases manifest as “photographic memory.” The actress Marilu Henner of “Taxi Driver” fame enjoys this condition, because it enables her to effortlessly memorize acting scripts.

The Dreaming Mechanism

Sleep abnormalities reveal the nature of the dreaming mechanism, which automatically reviews and re-evaluates accumulating memory records during “REM” (rapid eye movement) sleep to identify dangerous environmental

circumstances. During REM sleep, the brain normally halts nervous motor innervation of skeletal muscles to prevent violent movements during its review of retained memories. Persons awakened during REM sleep sometimes perceive paralysis and become aware of their dreams before they regain full consciousness. Inadequate motor suppression during the dreaming process sometimes manifests as sleepwalking or violent movements as affected patients subconsciously re-enact their dreams.

The Necessity of Sleep

Prolonged sleep deprivation is lethal in most people, but there are those who don't require sleep or dreaming. They remain awake through the night reading books or otherwise entertaining themselves and enjoy normal longevity. Thus, the emotional mechanism appears to serve little purpose in humans, whose superior intelligence enables them to avoid the life-or-death circumstances that bedevil wild animals.

How Consciousness Regulates Nociception

The specialized spinal cord nociception pathways conduct nociception to the brain as well as sympathetic ganglia. Consciousness interprets nociception as pain. Here things get complicated. Consciousness works closely with emotional mechanisms to generate “cortico-fugal” (descending) nervous signals to the spinal cord that continuously inhibit the spinal cord nociception pathways. The emotional mechanism modulates these inhibitory signals to regulate spinal cord nociception activity. This enables the emotional mechanism to regulate pain perception, and thereby prevent distracting pain during “fight or flight.”³

The classical example is a soldier who is wounded in battle but doesn't notice the pain and continues to fight. When the combat subsides, he suddenly becomes aware of incapacitating pain on account of his injury.

Autonomic Dysreflexia

Spinal cord damage in the neck around the level of T4 abolishes both ascending nociception from the spinal cord

to the brain and descending inhibition of nociception from the brain to the spinal cord. This creates a dangerous condition called “autonomic dysreflexia” in which the victim can no longer perceive nociception as pain in tissues below the level of the injury, but stimulation of those tissues can harmfully increase sympathetic nervous activity that threatens organ damage or even death. This predicament afflicted the actor



Christopher Reeves when he was flung off a horse, broke his neck, and became quadriplegic. Unsurprisingly, he survived for only ten years after the accident, and died prematurely at the age of 52.

Fight or Flight

The emotional mechanism works closely with consciousness to pre-emptively detect dangerous environmental circumstances, whereupon it generates fear and anxiety, and reduces the inhibition of spinal cord nociception pathways. The increased nociception activity releases HPA hormones (epinephrine, norepinephrine, glucagon, cortisol, etc.) and VWF to increase blood coagulability, elevate blood glucose, and restrict blood flow to non-essential organs and tissues. The increased blood coagulability limits blood loss in the event of injury. The elevated glucose levels provide cell energy and divert blood perfusion to facilitate fight or flight and thereby enhance survival. However, these emergency measures are inherently wasteful of energy reserves and stress mechanism substrates, and they cause harmful stress mechanism hyperactivity that generates excessive or defective stress mechanism products. This explains why chronic fear and anxiety promotes disease.

Behavioral Adaptation

The combined activities of the memory mechanism and the dreaming mechanism explain how animals adapt to changing environmental circumstances. For example, guinea pigs trapped in wire mesh initially exhibit extreme alarm and struggle to escape, but after a few days of such confinement they appear to accept their predicament and cease to struggle. Nevertheless, the unceasing emotional

stress reduces their life span. A more natural example was provided by the re-introduction of wolves to Yellowstone National Park. In the absence of wolves, the Yellowstone caribou learned to linger near streams and rivers where water and grass were abundant, and they gradually destroyed the trees where they lingered. The caribou were familiar with harmless coyotes and were not alarmed by their first encounters with wolves, but they soon learned the difference, and preferred open spaces where they could detect and avoid wolf attacks. They exhibited extreme nervousness when obliged to approach water sources surrounded by dense vegetation.

PTSD, Chronic Pain and Fear Syndromes

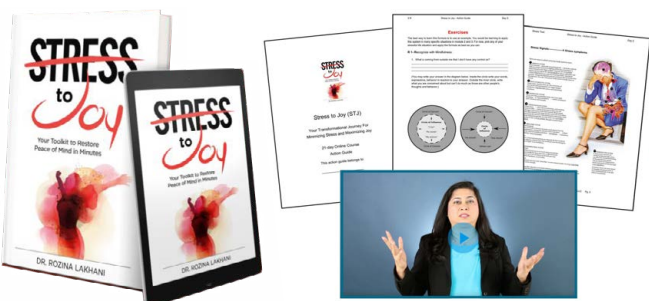
Emotionally memory can mimic reality, especially when the dreaming mechanism dramatizes distressing memories. Such memories are subconsciously re-activated by environmental circumstances, and they can induce panic and sympathetic nervous activity that undermines health in the same manner as the original events. For example, the memory of a traumatic dental experience can be re-activated by the sound of the dentist's drill, or the sight of an approaching needle. They can be so frightening as to necessitate general anesthesia to enable ordinary dental treatment. Such emotional memories explain the nature of PTSD (post-traumatic stress disorder) where people experience subconscious recall of automobile accidents, combat events, and so forth.⁴ Sedatives can prevent such troublesome memories, but once established they are notoriously difficult to treat.⁵⁻⁷ Tranquilizers suppress their anxiety, and opioids can

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mitigate their perception of pain, but the memories persist and re-occur, and invite addiction. Furthermore, tranquilizers and sedatives, including alcoholic beverages, are inherently toxic, and they damage tissues and promote disease with persistent exposure. Stellate ganglion blocks can mitigate the harmful sympathetic nervous activity associated with troublesome memories, but they require special training and entail risks.⁸ Experimental evidence suggests that drugs can disrupt fearsome memories, but they also invite toxicity.⁹

Conclusion

The mammalian stress mechanism explains why emotional adversity is a major contributing environmental factor in disease causation. It explains the “placebo effect” wherein sick patients improve when they are assured that they have received effective treatments, even though they have received only sugar pills with no medicinal properties. It likewise explains “Voodoo death” as described by Cannon.¹⁰ Whenever possible, patients should be removed

from stressful circumstances such as job stress and marital stress. Cancer patients should never be frightened by the news of their dismal prospects, and placing sick patients in clean, comfortable, caring, and pleasant surroundings can promote their recovery from sickness. Surgery patients should be pre-medicated to improve surgical outcome.

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Lewis Coleman, MD, FAIS is a board-certified anesthesiologist who completed his BS degree in biology at Ohio State University, earned his MD degree from New York Medical College, and completed his surgical internship and anesthesiology residency at UCLA, followed by 40 years in private practice. Coleman's basic sciences instruction at NYMC miraculously coincided with the two-year sojourn of Dr. Johannes Rhodin, a famous Swedish pioneer of electron microscopy who was retained by the school to upgrade its curriculum.

Dr. Rhodin was an expert on the stress theory of Hans Selye. His stress theory lectures devastated the dogma of classical physiology and convinced Coleman that stress theory represented the future of medicine. Many years later, these lectures miraculously enabled Coleman to identify Selye's long-sought stress mechanism. Thus identified, the stress mechanism enables Selye's "Unified Theory of Medicine" that promises a new era of health, longevity, and freedom from the eternal curse of disease. Its implications exceed the bounds of medicine and confer a "unified theory of biology" that explains embryology, extinction, evolution, ethology, intelligence, anatomy, taxonomy, the Cambrian explosion, and dinosaurs, and resolves the disparities of Darwin, Lamarck, Baldwin, and saltation. Its distant implications reside in the realm of science fiction. His website <http://www.stressmechanism.com> is dedicated to stress theory and offers relevant materials free of charge. His book, *50 Years Lost in Medical Advance: The Discovery of Hans Selye's Stress Mechanism*, is available on Amazon.



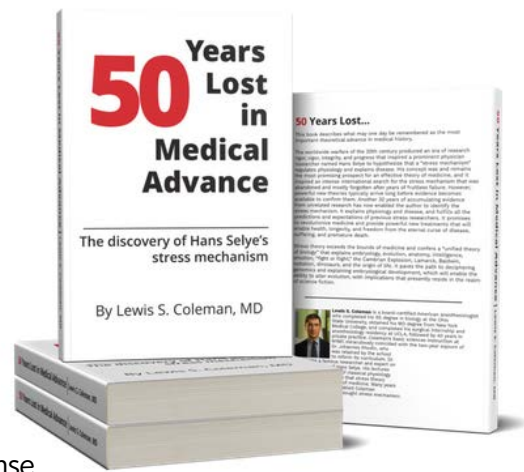
Book Review

A Review of *50 Years Lost in Medical Advance: The Discovery of Hans Selye's Stress Mechanism* by Lewis S. Coleman, MD, FAIS

The Stress Repair Mechanism Implications for Anesthesia and Medicine
By W.A.C. Mutch, MD, FRCPC

This work is an encyclopedic investigation into the stress mechanism originally proposed by Hans Selye in the 1930s. As first proposed, the mechanism centered on the hypothalamic- pituitary-axis (HPA) in response to injury and disease. Coleman has re-discovered and extended these observations to develop a Stress Repair Mechanism (SRM) mediated by the vascular endothelium which functions as a vast neuro-endocrine gland orchestrating the vascular and tissue response to injury and repair via the coagulation cascade.¹ This is subdivided into a capillary gate component and a tissue repair component. The capillary gate is mediated through the intrinsic coagulation cascade and the gate is opened by NO via the parasympathetic nervous system and insulin and importantly by CO₂. It is closed by a number of modifiable factors including sympathetic nervous system activity (modified by nociception and cognition) which generate endothelial Von Willebrand Factor (VWF) release and as a consequence increases blood viscosity, alters capillary bed flow, vascular resistance and decreases cardiac output. The tissue repair component is mediated by tissue factor released by injury, which binds Factor VII and initiates tissue repair orchestrated through thrombin activation. The broad implications of this mechanism are explained at length in the book and culminate in a Unified Theory of Medicine and Biology.

A key feature of the book is a discussion of the influence of anesthesia management on modifying the SRM. It is the responsibility of the anesthesiologist to manage the SRM optimally to maximize patient care and thereby positively influence patient outcome. The SRM can be influenced through anesthesia management in two key ways – by attenuating the nociceptive and cognitive pathways. Nociceptive pathway activity is blocked by use of narcotics and NSAIDS, wound infiltration of local anesthetic agents and nerve blocks. Cognitive pathway activity is altered by sedatives and intravenous and volatile anesthetic agents. Coleman emphasizes that both of these pathways need be managed together to minimize the stress response to surgery. The tissue repair pathway cannot at present be manipulated intraoperatively due to release of tissue factor with surgical trauma. Targeted postoperative management of tissue factor would revolutionize surgical management and maximally control the SRM. Central to Coleman's thesis is intraoperative CO₂ management and the impact of CO₂ on the stress response.² He maintains that modern anesthesia practice with hyperventilation and lower ET CO₂ is counterproductive and harmful to patient outcome. He is harshly critical of some of the founding fathers of anesthesiology with considerable opprobrium directed to Ralph Waters and Chauncey Leak and their misrepresentation of the physiological actions of CO₂.³ He advocates a return to a prior time when CO₂ was added to the inspired gases during the surgical procedure – an approach advocated by George Washington Crile and Yandell Henderson.⁴ His identification of the SRM and the importance of the capillary gate indicates why higher CO₂ tensions are salutary – CO₂ opens the gate, releases NO, decreases release of VWF



thereby lowering the inflammatory response, lowers blood viscosity, improves capillary blood flow, improves cardiac output, improves tissue oxygenation by the Bohr effect, better ensures delivery of antibiotics to site of action, facilitates volatile anesthetic agent uptake into the brain and removal at end procedure. Optimal anesthetic agent dose blunts the cognitive pathway, which attenuates the sympathetic activation that higher ET tensions of CO₂ cause, further enhancing the effect of CO₂ at the capillary gate. Supporting Coleman's proposal are recent works indicating greater mortality and postoperative delirium with lower ET_{CO₂} tensions as measured intraoperatively.^{5,6}

I believe that this book by Lewis Coleman is a very important contribution to the medical literature, especially so to the anesthesia library. It should receive wide readership and initiate vigorous discussion of current medical management. The full implications of this compendious work could well alter all fields of medicine if research based on these ideas bear fruit. Research into the benefits of CO₂ supplementation, or at the very least, preventing intraoperative hyperventilation, are easily accomplished studies in the anesthesia realm to begin testing the Stress Repair Mechanism.

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Book Review

**A Review of 50 Years Lost in Medical Advance:
The Discovery of Hans Selye's Stress Mechanism
by Lewis S. Coleman, MD, FAIS**

By Elliott English

The clearest way for me to evaluate how good or significant I think a book is without the immediate afterglow following the completion is to simply count the number of times I've re-read the book. I am continuously re-reading and taking notes on this book — I'm perhaps on my sixth time. This is very rare for me. It's not just good, it's a bombshell.

Saying that I am mostly evaluating the quality of ideas expressed. Yet I can also say that the book is overall well written with a bias towards details which I prefer. I believe anyone with a high school biology or physiology background would be able to sufficiently engage the material, but anyone can sort of test themselves by looking at his website: stressmechanism.com and then go to YouTube presentations. I happened to have found the website first and then was directed to the book.

The core theory with mechanisms and some practical applications are extremely insightful and should not be missed by anyone interested in their own health or in how our medical and research system is searching in unhelpful domains and applying less than helpful theoretical applications. This book and its theory need to find their way into the minds of our current thought leaders and funding recipients and anyone actually trying to reduce human diseases.

The core of Dr. Coleman's argument has us looking at haemodynamics as the keystone in the human experience of health and disease.

I have been focused on physiology of aging for a number of years and the most promising results are also focused on blood modification, but in general they lack the theory provided here. We should all be paying much more attention to carbon dioxide, nitric oxide, metabolism, blood viscosity, thrombin and thrombin inhibition to be able to cure most modern diseases. Before reading this book, I was already convinced by epidemiology that all diseases have very similar mechanisms, and this book explains a, or perhaps the major part of those mechanisms.

Perhaps you've heard that aspirin reduces the risk of heart disease and cancer, this book explains the mechanism. If you're paying attention to the anti-aging space, you know that metformin is being tested as an all-around anti-aging medicine...this book explains why and why we should expect that berberine might also be a reliable alternative. If you are curious how we could better treat COVID patients or any patients on a ventilator this book explains it. Why is vitamin D seemingly therapeutic for most modern diseases? Why does therapeutic plasma exchange work to reduce the phenotype of age and why might leeches and blood donation be something we should all consider much more often.

This book has THE mechanistic explanation. Hint: all answers are related to your blood and the stress response systems which dictates how viscous, or fluid, the blood is as well as how dilated the vasculature is and thus which cells get oxygen and nutrients. I recommend this book highly and hope others can also see the value put forth in it. If you want to have a better understanding of how to approach all major diseases: cardiovascular disease, cancer, Alzheimer's and many more conditions you need to read this book!

Elliott English is currently serving as Director of Telehealth Operations for BlueStar Telehealth. Following military service as an officer and midshipman, he has served as a fiduciary for an endowment exceeding 1 billion in AUM and managed global teams in operations, metrics and data science for Morgan Stanley and New Zealand's Pharmaceutical Asset Management Company. Elliott's professional aspirations currently center around using technology and business insights to facilitate preventative care's replacement of legacy healthcare. His pre-eminent personal hobby involves reading deeply in physiology and medicine in order to help friends and family solve problems ill-defined and dis-incentivized by existing medical institutions. He publishes on Substack: <https://elliott333.substack.com/>.



The American Institute of Stress

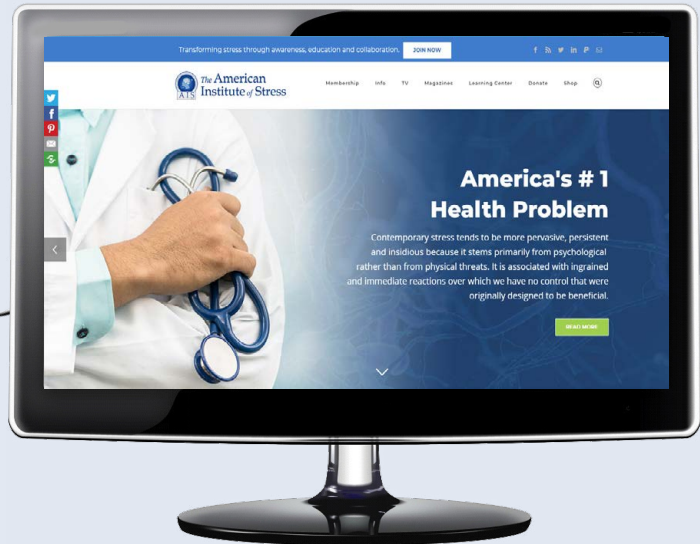
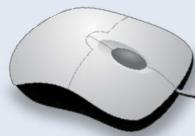
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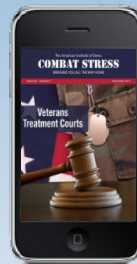


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The American Institute of Stress is a 501c3 non-profit organization, headquartered in Weatherford, Texas. We serve the global community through both online and in-person programs and classes. The Institute is dedicated to advancing understanding of the role of stress in health and illness, the nature and importance of mind/body relationships and how to use our vast innate potential for self-healing. Our paramount goal at the AIS is to provide a clearinghouse of stress related information to the general public, physicians, health professionals and lay individuals interested in exploring the multitudinous and varied effects of stress on our health and quality of life.

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Dealing with Stress Beyond COVID

By Evian Gordon, MD, PhD, FAIS, Founder and Chief Medical Officer, Total Brain and Donna Palmer, PhD, Chief Scientific Officer, Total Brain

In this article we will share with you a brain-based view of stress and the data collected regarding the effects of COVID in triggering stress in employees in large corporations across the US. We will suggest 5 ways for you to consider reframing your stress and activating your relaxation response in this phase of the COVID era, as you resolve going back to work decisions and begin to embrace the holidays.

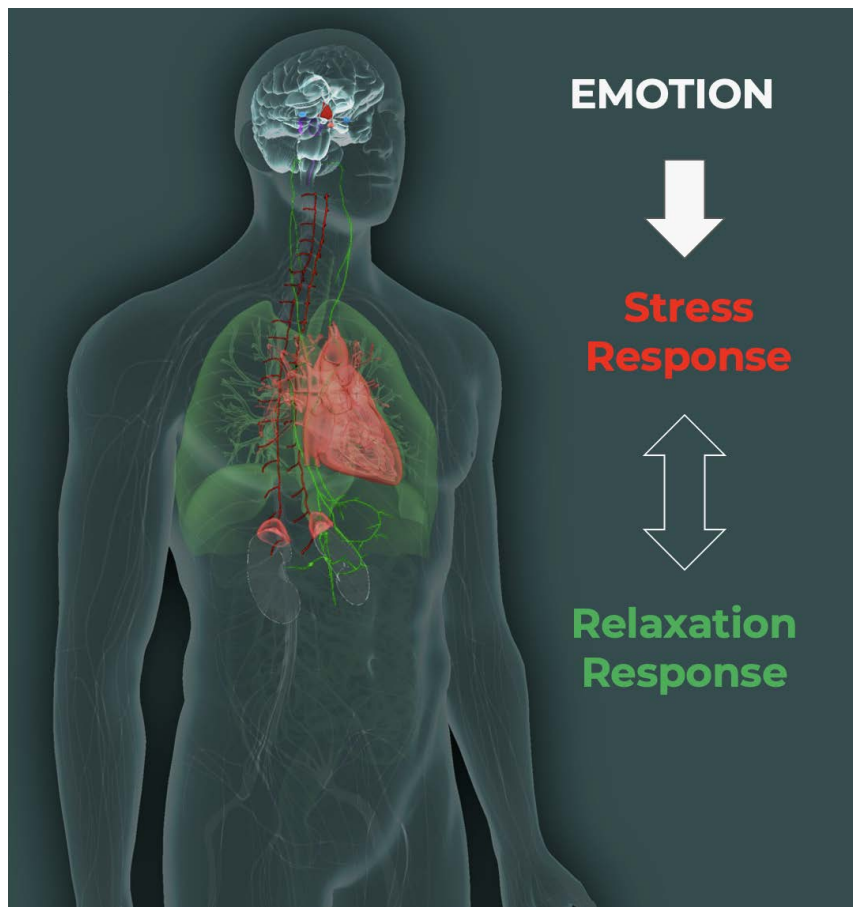
A Brain-Based View of Stress

At its core, your brain is wired to identify cues to avoid threats to keep you safe and identify possible rewards. This ongoing process is unconscious and occurs within a fifth of a second. It is the basis of your emotions, intuition and negative/positive biases that shape many of the approximately 50,000 thoughts you have every day.

Not only can cues trigger stress, but just thinking about physical or social threat cues can trigger stress. These unconscious processes are modulated by slower more detailed conscious rational cognition, including memory, focus and planning that can override these unconscious emotion-stress triggers. From the brain's point of view, stress occurs when your negative unconscious thoughts are greater than your capacity to consciously cope with them effectively.

Some stress is helpful, such as getting you out of immediate danger or to help you focus to complete a task. But when any perceived threat is intense it induces a Stress Response that includes activation of your fight or flight reflex. When stress is overwhelmingly negative or continually triggered and becomes chronic, it derails performance and increases the likelihood of mental disorder and chronic disease.

On the opposite end of the brain function continuum is the Relaxation Response, which induces a calm, more flexible brain and associated body state that helps you to cope effectively with the demands of your life.



Daily life is an ongoing dynamic fluctuation and balance between your stress and relaxation responses. Your effectiveness at managing your stress is increased by understanding what triggers stress for you and practicing the best techniques that put a brake on your stress response and boost your relaxation response.

Stress During COVID

COVID has been an acute and chronic global stressor with widespread and ongoing negative implications. Stress during COVID has reflected the waves of physical and emotion hijacks induced by this invasive existential crisis.

The initial rapid spread of COVID-19 saw large increases in stress and all mental health disorders. The second wave was associated with the stress of uncertainty. But on average people started to adapt. Stress diminished somewhat with vaccination but remains above pre-pandemic levels.

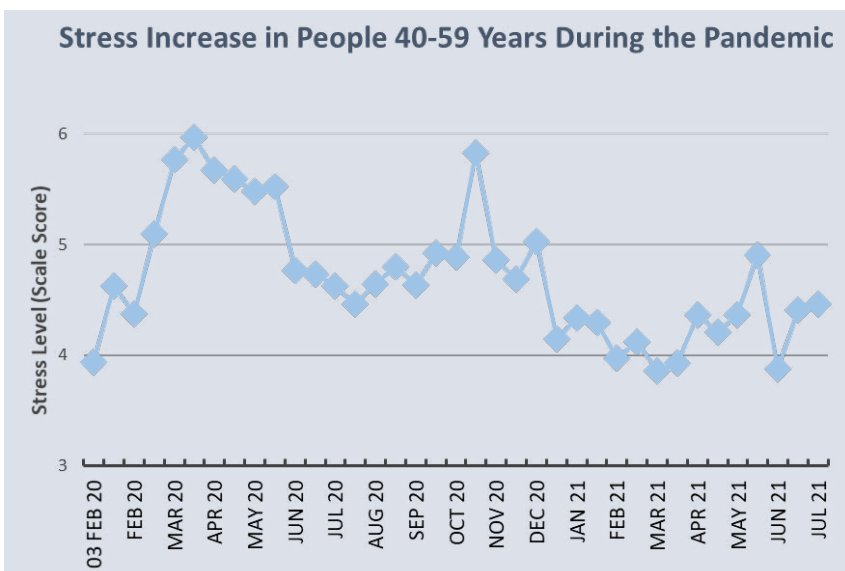
In addition, the third more recent wave of Delta variant is associated with a large percent of employees (approximately 20%) identifying intense negative thoughts

and feelings, associated with the aggregated micro-stressors and uncertainties linked with the virus as they return to work and school.

Now we enter a fourth phase where things seem like they should be going to back to normal, but we are instead confronted with a new normal of how we go about work and school routines in the midst of long-lasting pandemic circumstances.

These findings are consistent with a 2021 report by the US Center on Budget and Policy Priorities on financial hardship and unemployment from a national survey of stress and mental health conducted by American Psychology Association. They found that Gen Z adults (46%) were the most likely generation to say that their mental health has worsened. Nearly half of parents (48%) said the level of stress in their life has increased compared with before the pandemic.

Stress and worry about contracting the virus, coupled with job losses, loss of childcare, as well as the devastating loss of loved ones due to COVID are just a few ways in which the pandemic has influenced mental health. Analysis of the Census Bureau's Household Pulse Survey from earlier this year shows the economic downturn has led to mental health issues and increased substance abuse in the US. The analysis also found school closures and lack of childcare had an even larger impact on parents with children in their home under the age of 18 who either have transitioned to working from home during the pandemic or have been required to go into work throughout the pandemic. Those hardest hit by the mental health impacts of the coronavirus pandemic have been younger people and women, including mothers.



Monthly Data in employees across US corporations since the beginning of COVID (from the Total Brain Mental Health Index: U.S. Worker Edition, in collaboration with OneMind and the American Health Policy Institute). See link for further details, including reduced focus (<https://www.totalbrain.com/mentalhealthindex/>).

5 Ways to Reframe Stress and Activate Your Relaxation Response

It is possible to reframe stress into awareness and compassion and find your best techniques to ‘turn on’ your relaxation response.

1. Awareness and Compassion

An important piece of coping with COVID related stress is to be aware that integrating back into an office or school environment may be difficult due to experiencing new stressful challenges and your ability to focus effectively. *And to be aware that you are not alone in this.*

Almost everyone is more stressed than they were, and everyone has been through a lot. When integrating back into office and school life, be aware that the impact and burden of that stress is going to come with you to some extent. You may experience this as finding it harder to stay focused on the tasks at hand or having less tolerance and a shorter temper when things don’t go as planned, or when unexpected challenges come up. You may find that small challenges feel much larger or more burdensome than they should.

It is important to be aware that this is likely to happen, and to be more compassionate and understanding with yourself and with others as well. You want to avoid falling into the trap of thinking that there is ‘something wrong with you’ or beating yourself up about it. The important thing is to expect these challenges to arise, and to have some practiced go-to stress control strategies to help deal with it when they arise.

2. Everyday Mindfulness

Re-train your brain to be present, focused in the moment without judgement and stop unhelpful negative thoughts. Practicing simple mindfulness exercises

during your normal daily routine will help your brain learn to reduce negativity and focus better. An easy way to do this is to focus on the sensory environment around you. You can practice during a range of daily routines – while you are walking in nature or along the street, making morning coffee and breakfast, or even taking a shower.

Welcome all sounds and be open to explore them with a child’s curiosity. This simple practice induces your calm in the moment response and allows your brain to stop being caught up in the typical flow of overwhelming thoughts, worries and to-do lists. Focusing on your senses is a quick and simple way to become present.

This can be done in-the-moment to bring focus to your task at hand, or can be done as a daily practice routine to bring calmness and focus to your normal state of mind, which also puts you in a stronger frame of mind to deal with stress and challenges when they do arise.

3. Re-Train Your Brain to Notice Positive and Fun Things

Your brain is the ultimate danger detector. One of its most important functions is to keep you out of danger. But this is meant for a short-term heightened state of alertness until the potential danger passes, and you go back to feeling calm and safe again.

Over the last year and a half of COVID, almost everything you see and hear has been telling your brain to be on constant high alert for danger. Your threat-detection brain networks are constantly triggered to look for signs of danger more than normal. When danger signs are found it leads to more stress and reinforces the need to look for more danger.’ This creates an ongoing brain state of heightened stress and worry that you can’t just shut off in a moment,

Practicing simple mindfulness exercises during your normal daily routine will help your brain learn to reduce negativity and focus better.



even if the environment around you is no longer as dangerous as it was previously.

You can train and “nudge” your brain back into a calmer and more positive state of being. One way is to purposely look out for and notice positive and fun things around you.² Challenge yourself to pick out one positive thing each day that

you consciously acknowledge – it could be as simple as seeing your neighbor’s dog go for a walk or noticing a fun moment with your family – and just acknowledge and focus on that positive experience for a moment.

Because your brain’s stress and relaxation responses are triggered in a second,

by purposely noticing positive things *even for a moment*, you are consciously nudging your core brain networks responsible for calmness and positivity to become more active. By looking out for things to reinforce positivity and calmness you can reduce the hyper-alert state of looking out for danger.

4. Repetition of a Stimulus in the Moment

Dr. Herbert Benson, a Harvard cardiologist, studied the significant body and brain changes of meditators and discovered something groundbreaking. Simply put: “any repetition technique will break the train of everyday thought.” For example, a repetition of slow breaths and saying a meaningful word to yourself as you exhale, or a repeating musical sound or a repeating movement, will all generate a calming relaxation response.³

Benson also points to a way for each person to find what works best for them. Choosing a word or mental association can create a deeper personal experience and induce authentic calm.

Breath repetition in Mindfulness techniques, slow resonant breathing at 6 breaths a minute, a positive affirmation, repetitive calm sounds or music can be carried into repetitive movement practices, such as yoga, Tai Chi and Chi Gong. All work. But discover and practice what works best for you.

The most common of these relaxation techniques is to take back control of your stress and worry systems by spending a few minutes doing repetitive slow breathing. The pandemic hijacked your internal systems of worry and stress, now you can do some hijacking yourself by tapping into the part of your brain’s worry network that is the easiest to control – your breath. By slow breathing for a few minutes, the brain-body feedback

networks start to tell your brain that you are actually calm and safe, and this in turn reduces the upward cycle of stress and worry. This is again something that can be easy to fit into your daily routine. You can do this for a few minutes at your desk, while you are waiting for your children to do something, or even while you are sitting on the couch watching TV.

This is an excellent in-the-moment method of calming yourself down. Practicing daily slow breathing (especially at 6 breaths a minute “resonant breathing”), regardless of how you are feeling at that moment, is an effective way of calming down your baseline state of being and can lead you to feeling calmer, more focused and more productive when small daily stressors and challenges arise throughout the day.

5. Repetition of What Works for You Will Generate a New Habit

Rewire your brain-body calm through repetition. Working these techniques into your daily routine is key. Just 5-10 minutes per day as a regular practice quickly becomes a daily built-in stress coping practice. Try out different types of the options described and then continue with the ones that work best for you, and most importantly, that you will continue to include as a daily practice. The best stress reduction techniques are the ones that you are most likely to continue practicing on a regular basis.

Any amount of stress reduction practice is helpful, but the more you continue to do the more benefit you will get. In one of our studies, when regular daily practice over four weeks added up to a total of 1-2 hours or more of practicing stress reduction techniques, stress was reduced by 19-26%.⁴

This data and other studies show that the more you practice stress reduction, the

By slow breathing for a few minutes, the brain-body feedback networks start to tell your brain that you are actually calm and safe, and this in turn reduces the upward cycle of stress and worry.

calmer you become. Significant benefits begin with as little as 1 hour of practice in total, if done in small regular training steps three times a week. Once you have wired a new, calmer brain network, you can readily

transfer the practice and growing benefits into a daily lifestyle habit.

These 5 calming techniques are also complemented by other activities such as curiosity, humor, music, aromatherapy and exercise.

The key is discovering the techniques that work best for you and actually doing them.

ANY progress is impactful!

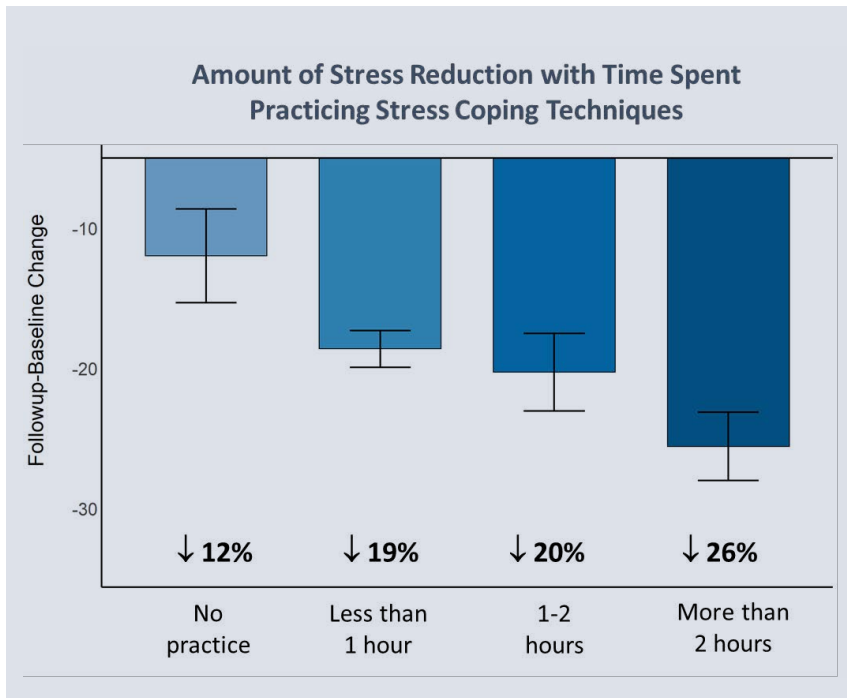
ANY practice is success!

Acknowledgements:

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Data from the Total Brain Database, from a study of 6,687 people who practiced slow breathing, mindfulness meditation and positivity techniques for varying amounts time across several weeks as part of normal daily routine, with stress coping levels measured before and after practice. The reduction from no practice was associated with doing self-awareness assessments (Total Brain Science Manual, 2021).

Dr. Evian Gordon is the Founder, Chairman and Chief Medical Officer (CMO) of Total Brain. He founded the largest standardized International Brain Database (over 1 million datasets) to discover what insights and behavioral habits are most effective in stress, mental health, wellness and peak performance. He also founded <https://www.totalbrain.com>, an online mental health and performance platform to empower users to self-monitor and support self-care of their mental health, wellness and peak performance. Having published over 250 peer-reviewed scientific publications, Dr. Gordon is a Fellow of The American Institute of Stress (AIS) and featured in the Institute's 2021 documentary, *Mismatched: Your Brain Under Stress*. Dr. Gordon is a recipient of the inaugural Royal Societies Eureka Prize for Interdisciplinary Scientific Research. He hosts the Total Brain Podcast with key opinion leaders around the world on Behavior Change. Publication details at: <https://www.dreviangordon.com/>



Dr. Donna Palmer is a cognitive neuroscientist specializing in emotional brain functioning and integrative neuroscience. Dr. Palmer is the Chief Scientific Officer at Total Brain and a Research Affiliate of the Brain Dynamics Center, Westmead Millennium Institute and Sydney Medical School, The University of Sydney.



Once you have wired a new, calmer brain network, you can readily transfer the practice and growing benefits into a daily lifestyle habit.





*Thriving
in Chaos:*
**Managing
Change in
Your Life**

By Jeff Jernigan, PhD, BCCPC, FAIS

My grandmother was born in 1885 and lived through some phenomenal times until her passing in 1978. When I was a boy, she would tell stories of her childhood sitting around listening to her parents and uncles talk about the Civil War and the Indian Wars. She remembered traveling to Europe by steamer because there were no airplanes in those days. She remembered Kitty Hawk, Henry Ford, and finally getting the right to vote. Airplanes, automobiles, and the Suffrage Movement were living history for her. When I asked her about how she felt about all these changes she simply answered after a moment of reflection, “Today is the same as yesterday and tomorrow will be no different.”

What are the inherent qualities of change? Why do things change, and what is the push or cause for change in our lives? All of us experience the effects of change every day. Just think about what has changed in your lifetime. Freeways began appearing across the country in the 1920’s and created a countrywide network by the early 1950’s. Commercial jet aircraft service began in 1952. Epidemic polio, pneumonia, measles, and tuberculosis were virtually eliminated in the United States by the early 1960’s. Air conditioners, washing machines and dryers, dishwashers, and televisions were not standard home appliances until the early 1970’s. Laptops, cell phones, and smart watches used to be science fiction

and now we are using these every day. All these large changes trickle down into our lives and change our travel, our health, and how we get work done along with many other things about our daily lives.

We don’t recognize how much things constantly change because of this trickle-down effect. Now, living in the 21st century, it is a little easier to comprehend because technology is moving ahead so fast, but it is still difficult in the moment to grasp the reality of change and its impact on us personally, because, like she said, it seems today is the same as yesterday and tomorrow will be no different.

This is very troubling when prolonged stress and uncertainty is a significant part of our daily experience. My grandparents talked about WWI and WWII this way, and my parents lived in an era when nuclear war was a constant threat. I remember neighbors building bomb shelters and teachers having us practice scrambling under desks at school when the alarm sounded. And now we and our children are living through a pandemic.

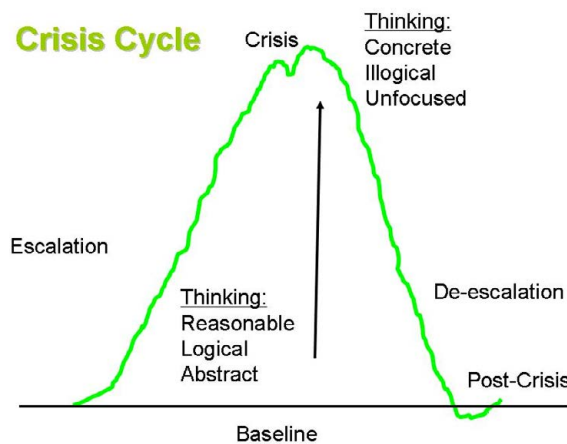
None of us in the history of the world have escaped the reality of constant change in our lives. This is great when times are good! When times are not so good it is wearing, depleting, and even depressing. Our resistance wears thin, and our resilience seems to have taken a holiday just when we need it to be present. To understand how to thrive in the chaos of unwanted change we must first understand how we respond to crisis, and how to use this knowledge to manage change in our lives constructively.

None of us in the history of the world have escaped the reality of constant change in our lives.

We always have three choices: fully embrace the change, modify the change, or refuse to change.

Growing weary of difficult times is natural, as is the way it can creep in and surprise us. For example, prior to the pandemic exploding across the globe in early 2020, the airline industry reported more than 100 people banned for life in the previous five years for acting out in a manner to endanger passengers and interfering with aircraft operation. In the eighteen months or so since the pandemic got into full swing this number has climbed to more than 5,000 banned for life. 100 in five years has become more than 5,000 in one-and-a-half years. Why? Because of pent up resentment, anger, and fear in the face of limited or no capacity to manage one's self any longer. Along comes a trigger that may have nothing to do with present circumstances and over the top we go! This can happen when we have no margin left whatsoever.

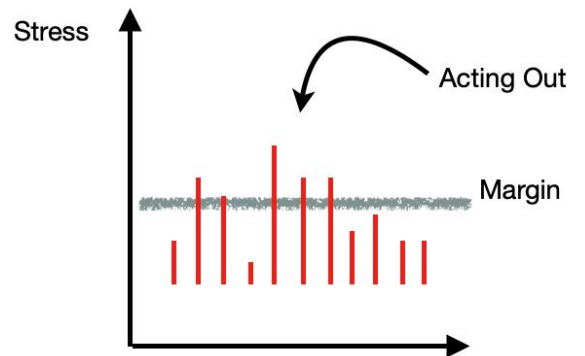
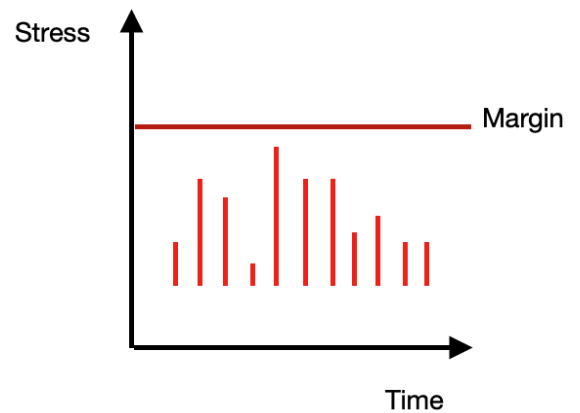
Personal crisis follows a natural pattern. Life events creep up on us (slowly or suddenly) and the cumulative stress involved pushes us into a crisis mode. The amygdala (the threat-processing center in the brain) kicks in and the adrenaline starts flowing. Heart rate picks up, breathing becomes rapid, and we go on high alert as our fight or flight response kicks in.



In the blink of an eye, our thinking goes from reasonable to illogical and we act out. Some sort of de-escalation is needed, and

if we cannot provide this for ourselves, someone else is going to have to provide this for us. Once we are calmed down, we may begin to wonder what got into us, and feel embarrassed or even ashamed. There is always a let-down after a crisis, whether or not we have these feelings.

Usually, we have sufficient resilience and margin to not come to a point where we lose control and act out. Normally we have enough reserves of energy, patience, and self-control. When we no longer have these reserves our stress load will exceed our margin, and this is when acting out can occur. The key, of course, is shedding stress with regularity and sustaining resilience.



Our psychology can sometimes trip up our biology, and vice-versa. Worry and fear produce anxiety, while discouragement and feeling trapped by circumstances can produce depression. At the same time, lack of sleep, poor diet, and physical fatigue can produce the same things. Our external environment has a lot to do with our physiology and psychology as well.



Change always meets with some initial resistance as a normal and healthy reaction. Our amygdala, acting as a sentry for everything our five senses perceive and our internal sensors report (temperature, heart rate, pain and physical discomfort, fatigue), kicks in with a result we experience as skepticism, doubt, or resistance when we first understand we are faced with a change. Not all change is a good thing, so this reaction gives us a pause to evaluate how we are going to respond. Sometimes it is obvious the heralded change is a good thing (I am getting a promotion) and easy to adapt to, while other changes may not be so positive (the pandemic has put us back into lockdown).

We always have three choices: fully embrace the change, modify the change, or refuse to change. Knowing we have a choice actually takes away some of the stress of being confronted with an involuntary opportunity to wear a mask, for example. Or choose to wear other personal protective



When someone says or does something you perceive as weird or irrational, try not to judge or discount their feelings.

gear that serves the same purpose or refuse to wear a mask at all. Hopefully, we all make choices which have little negative consequences for ourselves or others. Identifying the choices we have is healthy because we minimize the internal struggle we may experience when it feels like we are losing control of our lives. We won't always have the freedom to choose to do whatever we want to do, but we will always have the freedom to choose to do the right thing. When we have choice, we have control. In fact, there are a lot of things we can control.

There are a number of things we can do to manage change in our lives, especially in the midst of chaotic change. Here are some things you may not have thought of in the context of maintaining margin and choice in these challenging times.

De-escalation is a skill you can use any time you recognize rising angry, hostile, or rebellious attitudes surfacing in your thinking. This usually emerges in response to a sense of worry or defensiveness:

- Find a place to sit as comfortably if possible. Take three deep breaths, slowly inhaling and slowing exhaling. Don't hold your breath. This will turn off the amygdala and lesson agitation. Repeat as necessary.
- When someone says or does something you perceive as weird or irrational, try not to judge or discount their feelings. Whether or not you think those feelings are justified, they're real to the other person.
- Respect the other person's personal space if not already social distancing. If possible, stand at least two to three feet away from a person who's escalating (or if it is you who is escalating). Allowing personal

space tends to decrease a person's anxiety and can help prevent acting-out behavior.

- The more a person loses control, the less they hear your words and the more they react to your nonverbal communication. Keeping your tone and body language neutral will go a long way toward defusing a situation.

The Crisis Prevention Institute offers more tips in their free CPI's Top Ten Tips booklet.¹

Humor is a great way to back off from taking yourself so seriously. I have a coffee mug on my desk with a simple statement baked in that makes me laugh and reminds me to tone down.

My therapist thinks I am crazy but my dog says I am okay

Yes, my dog talks, but that is a different issue entirely. Often the obvious and simplest solution is counterintuitive. Rest will enable you to regain perspective as will story-telling with trusted friends. Are you getting eight hours of sleep every night? Do you have friends that can actively listen to your latest story (experience) and also count on you to actively listen to theirs? This kind of processing sheds stress rapidly

through experiencing being listened to, understood, and taken seriously.

Psychological First Aid (PFA) is an evidence-informed approach that is built on the concept of human resilience. PFA aims to reduce stress symptoms and assist in a healthy recovery following a traumatic event, natural disaster, public health emergency, or even a personal crisis. There is even a version of PFA for self-care:

- Do you recognize signs of stress in yourself? Take some time to de-escalate. Be mindful and listen to yourself. Have you noticed any changes? Is it time to take a break?

- Have you connected lately with trusted friends and family? Are you using a journal to connect with yourself? Often standing up and reading what you wrote in your journal out loud provides insight and relief. This is not recommended for a group activity!
- Engage in refreshing activities which can balance the more stressing things you are involved in. Focus on positivity.

Positivity leads to optimism and hope and changes your mindset or perspective. Neurologically, it produces dopamine, serotonin, and other feel-good chemistry in your brain. You are not tricking yourself into feeling better about your situation. You are taking advantage of how our brains work by making the decision cognitively to be positive and experiencing how volitional choice regarding an emotion (positivity) will be followed by a change in your feelings.

This works for dreaming as well. When we fall asleep what we intentionally are thinking about is handed off to our subconscious which goes to work continuing our thought process. Imagine a shift change at the end of the day handing off a project to the night shift. If

you are intentionally focused on positive things, that will continue as you fall asleep producing the same sense of optimism and hope it does when you are awake. One of the things I like to do is think about all the things I am grateful for in the day or week which just passed. Gratitude can be healing.

Change is a part of our lives. Sometimes barely noticed, sometimes roaring through our lives like a berserk freight train. Sometimes pleasant and encouraging, sometimes difficult and discouraging, but always present. It is a reality in life we cannot escape. Better to embrace change as a reality and lean into it with a positive attitude knowing we still have choices and can manage change in our life no matter how easy or challenging it may be. Sustain your resistance, increase your margin, manage your stress, and be forever grateful.

“Piglet noticed that even though he had a very small heart, it could hold a rather large amount of gratitude.” A. Milne, Winnie the Pooh

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Jeff Jernigan is a board-certified mental health professional known for influencing change in people and organizations by capitalizing on growth and change through leadership selection and development. Jeff currently serves Stanton Chase Pacific as the regional Life-Science and Healthcare Practice Leader for retained executive search and is the national subject matter expert for psychometric and psychological client support services.

A lifetime focus on humanitarian service is reflected in Jeff's role as the Chief Executive Officer and co-founder, with his wife Nancy, for the Hidden Value Group, an organization bringing healing, health, and hope to the world in the wake of mass disaster and violence through healthcare, education, and leadership development. They have completed more than 300 projects in 25 countries over the last 27 years. Jeff currently serves as a Subject Matter Expert, Master Teacher, Research Mentor, or Fellow in the following professional organizations: American Association of Suicidology, National Association for Addiction Professionals, The American Institute of Stress, International Association for Continuing Education and Training, American College of Healthcare Executives and the Wellness Council of America.



Managing Holiday Stress with Mindfulness



By Jacinta M. Jiménez, PsyD

The seasons are changing, days are getting shorter, and the holiday season is upon us. While festivities, food, lights, and laughter can make it the most wonderful time of the year, it also isn't necessarily a stress-free time. Even before COVID-19 entered our lives, the holiday season typically brought an uptick in stress. In fact, a 2019 Lending Tree survey found that a whopping 61% of Americans dread the holidays.¹ Sources of holiday stress can come from the pressure to spend, travel, family drama, taking time off work, expectations tied to traditions, and the feeling of being spread too thin. Furthermore, in the wake of COVID-19, the holiday season will again continue to look different for us this year; things like traveling and gathering in large groups now add yet another layer to our lives during this already stressful time.

Before the stress of the holidays sneaks up on you, I want to provide you with a powerful tool to help you to enjoy a low stress holiday season: **mindfulness**. In essence, mindfulness involves turning your attention to the present moment to be more fully present and aware of where you are and what you're doing. We all have had those moments where we are physically present, but our mind is somewhere else. You may be surprised to learn that according to research conducted by Harvard psychologists Matthew Killingsworth and Daniel Gilbert, we spend only about half our time (46.9%) in the present moment.² That's right — we are mentally checked out for half the time we're spending on work or engaging in daily life! But is this bad for us? Studies have confirmed that, in general, a wandering mind is associated with a negative mood.³

While learning to be more present in this day and age, let alone the holidays, may sound like a daunting task, the good news is that there are quick and easy ways to weave it into your day-to-day life. That's right, mindfulness practices do not require sitting in a lotus position with your eyes closed; rather, no matter what we are doing — whether you're playing with your children, eating at a family gathering, traveling, or running a holiday errand — you can practice mindfulness. Here are three ways to get you started on practicing mindfulness during the holidays to combat stress:

Mindful Meals

It's no secret that we tend to overeat during the holidays. As we rush through the season, we are often so consumed with all that the holiday meal involves, from planning through preparation, to décor and table settings, that it's easy to be so busy that we miss all that is happening at our tables. By being fully present our meals can even restore us. From the tastes, colors and smells of each bite, to the warmth and chatter of the people around us, being mindful can bring a sense of calm as well. Learning to eat with an awareness of our food, it's appearance and fragrance, the tastes and flavors will keep us focused and much less likely to overeat as well. An easy way to begin this practice is to simply create a new 'ritual' of sorts before each meal that anchors you back to being fully present. Some examples include taking just one minute to allow a person at the table to quickly share one thing they're grateful for, creating a fun challenge to find your favorite flavor, or even a 30 second pause to simply take a collective deep breath before diving in.

Mindful Connection

Mindful conversation is important not only during the holidays. Whether at work or at home, the opportunities for deeper connection present themselves, and after all, isn't that what the season and life is all about? While sharing holiday cheer or reconnecting with family members we've missed, it's easy to just

Learning to eat with an awareness of our food, its appearance and fragrance, the tastes and flavors will keep us focused and much less likely to overeat as well.

Listening with intention — even for just a few minutes — is a powerful skill that can create a significant impact as we master and share focus, awareness, and attention.



jump in without really listening, as we wait for the opportunity to interrupt and share our ideas. Powerful communication is enabled when both parties feel supported, appreciated, and truly heard. In becoming fully present throughout the conversation, co-workers, friends, and family receive the attention and support they (and you) deserve while also embracing the calm that comes along with bringing our wandering minds back to the present. Listening with intention — even for just a few minutes — is a powerful skill that can create a significant impact as we master and share focus, awareness, and attention.

Jacinta M. Jiménez, PsyD, BCC (also known as “Dr. J”) is an award-winning Psychologist and Board-Certified Leadership Coach with a 15+ year career dedicated to the betterment of leaders. She is the author of the bestselling book, *The Burnout Fix* (McGraw Hill, 2021), an evidence-based resilience toolkit to help find better, more sustainable ways to succeed at work and life. A graduate of Stanford University and the PGSP-Stanford PsyD Consortium, Dr. J is a sought-after expert in bridging the fields of psychology and leadership.



Traveling Mindfully

Driving and commuting is typically associated with stress and annoyance, but it doesn't always have to be. Next time you are stuck in traffic, think of this down time as providing you with an opportunity for deep breathing and being in the present moment. As you circle your mind back to the present by placing your awareness on your breath, it can make a significant difference in helping you to focus and relax. Driving with quarreling children is no walk in the park either, but it's a great opportunity to work on learning to accept the moments of our lives for what they are. Best of all, as you renew your calm and restore a sense of peace, it may even resonate with your passengers in the back seat as well.

Although the holiday season might seem like a source of unavoidable stress; approaching the holidays with mindfulness can lead to unexpected calm if we can realize that being in the present moment is an important piece in fully savoring this unique time of year.

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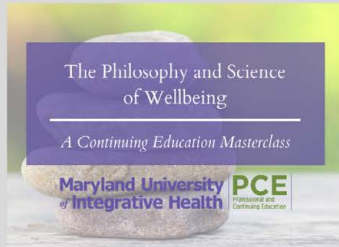
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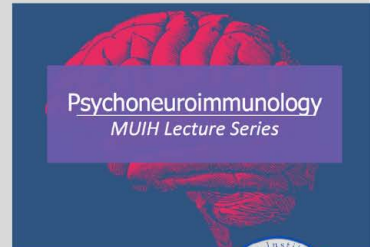
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A woman with dark hair in a high ponytail, wearing a black sports bra and blue leggings, is captured in a dynamic pose. She is looking directly at the camera with a focused expression. Her right leg is raised and bent at the knee, with her foot resting on her left leg. Her arms are extended, with her right hand near her head and her left hand reaching out to the side. The background is plain white.

Moving
Through
Stress
With
Body
Awareness

“In our busy, high-tech, low-touch lives, it’s easy to operate detached from our own bodies. They too easily become vessels we feed, water, and rest so they can continue to cart around our brains. Instead, we need to pay attention to the information our bodies are sending us—before real health problems set in.” – Susan Bauer-Wu¹

By Ashley DePaulis, MPH, Founder of Embodied Success

In the final months of the year we naturally begin considering our aspirations for 2022.

Is movement, and the way you move through your day connected to your body on your list of priorities? Whether you realize it or not, being connected to the movement of your body is an access point for greater self-awareness.

Trends in Post-pandemic Movement Patterns

The pandemic has changed movement patterns throughout the world. How and where people are living, working, and playing has shifted. The confines of place and space are expanding in all aspects of life.

Overall, though, it seems every one of us could improve how we move. According to The International Journal of Behavioral Nutrition and Physical Activity, during the COVID-19 pandemic, 20.3% of U.S. adults reported being more active, 30.4% of adults reported being less active, and 42.7% of adults reported no change in their amount of physical activity.²

No matter what group we fall within — even the more physical activity group — I

think we can all admit that we’ve been sitting and staring at screens more than we’d like to admit.

With that, stress levels have been on the rise with close to half the U.S. population experiencing symptoms of anxiety or depression, according to the U.S. Census Bureau.³

At this critical point in our ‘Always On’ culture with the prolonged stress of a pandemic, you can’t afford not to take time to connect within, and movement is a great way to do just that, improving your mental and physical health in the process.

Yet this may not be reason enough for you. You may know it’s good for you, and that you need to do it, but you just don’t, or you can’t find a rhythm with it. Or maybe you’re like me, you love moving and you enjoy training your body through physical activity, but you need additional ways to relieve stress throughout your day. Bringing body awareness into the equation supports both ends of the spectrum.

Engaging Your Subtle Senses to Get Out of Your Head and Into Your Body

Movement can help process emotions, and healthy doses of movement means that you’re moving more of yourself,

Is movement, and the way you move through your day connected to your body on your list of priorities?

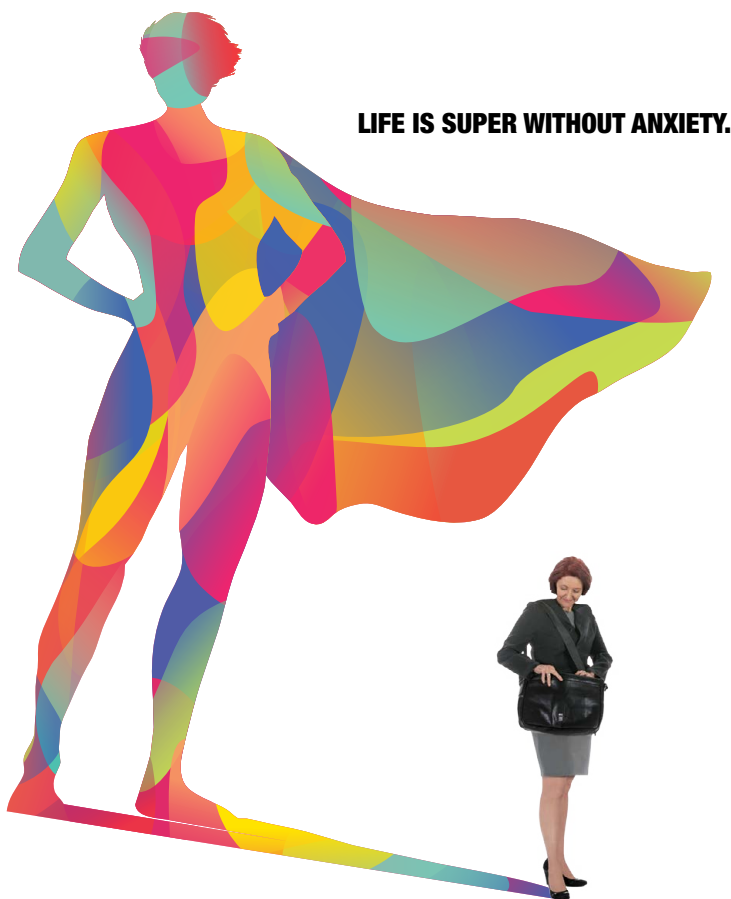
more often. This means beyond, during, and despite a daily workout.

You've likely heard the popular phrase, "listen to your body," and you may have wondered, "what am I listening to?" Listening to your body means tuning into your body's signals through your senses, specifically the sensory perceptions inside your body known as interoception. It gives you valuable feedback related to your inner emotional experience.

The 5 senses — seeing, hearing, smelling, tasting, and touching allow us to experience a degree of sensations, yet going through the day we may not be engaging with our sensory experience. Beyond our 5 senses is the 6th sense of proprioception — the body's ability to sense itself in space through movement, action, and location. When we have good proprioception, it means we can move without looking, we're good at judging distance as we move, our

movement is fluid, we avoid bumping into objects, and we can use appropriate force when handling objects. When we're accident prone, or when we feel awkward as we move, we can increase our proprioception through moving in more ways and bringing attention to our movement.

Then there's the 7th sense of interoception — the ability to sense the internal state of the body, aka how our body feels. This is the most invaluable of the senses and it often goes untrained. In fact, we are often rewarded for ignoring it. This sense tunes us into our emotions, feeling our heart rate, noticing hunger and fullness, muscle tension, thirst, tiredness, body temperature, our need to pee, and how deep our breath is. Many of these actions are unconscious, like sensing when we need to use the restroom. Once we are able to bring awareness to what was once unconscious, we can bring more choice to



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our behavioral decision making, like eating, or meeting other basic needs with care.

Body Awareness, Stress, and Engaging in Mindful Movement

Managing stress and thriving throughout our day without becoming depleted starts with interoception body awareness.

A good rule of thumb is to start to notice what you're noticing.

This awareness allows us to use stress to our advantage instead of ruminating in it.

When interoception is learned, we can relieve stress related muscle tension in the moment. Allowing us to gain a deepened sense of how we hold ourselves in various postures, and how moving in and out of these positions can change our state of being and reactive patterns. We also begin to recognize how our environment impacts our nervous system and learn healthy ways to self-regulate. We can then respond from a place of choice instead of habitually repressing or powering through our feelings, to which we have become accustomed.

Next time your body is filled with the sensations of stress, notice what you're noticing.

Dr. Mithu Storoni, MD, PhD says, “do your best not to relax immediately after a stressful situation.”⁴ This is when our brain likes to run wild with stories that have us blaming, shaming, and judging ourselves. Do mindful movement instead — with attention and intention to move your awareness from the stressor.

Think of this as a cool down exercise. Breathing counts, and so does any natural movement your body calls for to release tension.

I love natural exercises that affect our emotional states easily and quickly. Just as breathing can calm our nervous system, so can mindfully rubbing our hands together.

Rubbing our hands together has been shown to generate delta waves in the brain.⁵ The resulting chemical reaction moves us out of the fear center of our brain.

Consider this movement for instant relief. Try it right now for 20-30 seconds and then bring awareness to how you feel after. Its calming effect will also help you make clear and focused decisions. No need to get stuck in quicksand over stress, we have the power to train our bodies to respond differently.

Take Mini-Recess Breaks to Move Throughout the Day

To practice interoception, it helps to move into a slower pace, and even take what I like to call, mini-recess breaks. Slow down enough to:

- Unclench your jaw
- Take deep breaths
- Shake your hands at your side
- Soften your neck
- Release your shoulders
- Self-massage — like rubbing your hands together

Mini-recess breaks like these throughout the day, even for 30-seconds at a time, will help relax your mind and body, shifting you from a stress response into an elevated state of thriving. It will also help release any tension that soreness, tightness, and pain carry in your body, leaving you feeling a little more focused and refreshed.

Create A Personalized Menu of Movement

Paying attention to internal cues will allow you to choose movement from the inside out — movement that you can easily integrate into your daily life to handle acute stress, so that it doesn't become chronic, and movement that keeps you strong and mobile as you age. Research

Next time your body is filled with the sensations of stress, notice what you're noticing.



has shown that ignoring your body’s signals can lead to physical and mental health conditions,⁶ so listening is key to unlocking greater health and wellbeing. For example:

Movement to quiet the mind

- Dance, shake, laugh, skip, hop, jump around.
- Swim, bike, run, play a sport
- Use weights or moving through full range of motion with resistance-- squat, push, pull, lunge, carry, hinge, rotate

Movement to relax the body

- Forward fold either seated or standing in rag doll
- Lay down on your back with your feet placed on the floor while placing one hand on your belly, and the other over your heart
- Cat cow, child’s pose, happy baby

Movement for a quiet mind and relaxed body

- Go for a walk outside and engage your senses
- Listen to soothing music while focusing on your breath
- Breathwork, or tapping

- Yoga, Pilates or movements that call on balance, coordination and crossing the midline

This list is not intended to be exhaustive. Instead it’s intended to get you thinking about new ways you can move and positions you can call upon when dealing with acute stress.

Always start where you are. Consider how you enjoy resetting your energy, what activities bring you deep rest, and how you like to experience play and recreation. Then create a ritual around it, schedule it, find a community, or friends and coworkers that can keep you accountable. More people need to be asking, “What does my body need right now? What am I feeling and sensing? What do I need right now?” It is possible to develop proprioception and interoception through mindful movement.

Conclusion

Put down the phone, release the need to overwork, or the feeling that everything is urgent, and start connecting with

your body, yourself, and others. Create a ritual around movement, allow mini-recess breaks throughout the day to connect with your body, and know that it's cumulative movement that matters for holistic wellbeing. Your body speaks, and you cannot change your state of being through your mind alone. Give yourself permission to learn as you go and be easy on yourself.

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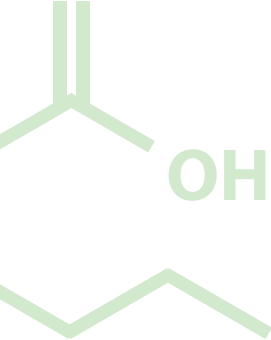


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Holiday Bliss and Your Endocannabinoid System



By Sharon Montes, MD, *Living Well Whole Health*

If you simply maintain your inner chemistry in a certain way, the body itself will produce these “bliss” molecules, whilst the nervous system will receive it. If you generate sufficient amount of anandamide in your system, you will be blissful, yet alert. – Sadhguru'

How can we stay happy and healthy this holiday season? Holiday gatherings of all kinds can trigger many and varied emotions. There will be an abundance of opportunities to feel unhealthy stress. On the other hand, if you nourish your endocannabinoid system you can dial up your body's chemistry for increased inner bliss.

Not Everything You Learn in Medical School is Accurate

When I was in medical school, I learned that many medications work by mimicking the structure of chemicals our bodies produce naturally. Medications work by fitting into specific receptors both on and inside our cells to cause predictable reactions. One example of this is our endorphin system. Each individual's body produces a collection of different endorphin molecules that are designed to help us deal with pain and produce a sense of well-being. Opioid/narcotic medications were designed in labs to mimic these effects. I was taught that endorphins were responsible for that euphoria or similar to the “runner's high” one gets

after prolonged exercise. Well, it turns out I was taught wrong!²

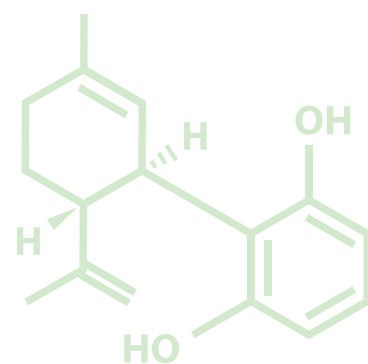
What I didn't learn about in medical school was the existence of an endo (self-produced from within) cannabinoid system. About 30 years ago, Israeli scientists discovered many compounds, called cannabinoids, that had beneficial effects on the nervous system of humans. These cannabinoids are so powerful at helping human brain health that in 2003 the USDA took out a patent on them.³

Stress Management and Our Endocannabinoid System

Our sympathetic nervous system activates our adrenal glands when under stress. Overactivation creates an abundance of cortisol, which if elevated over a prolonged period of time, leads to poor immune system health. Our master regulatory system – our endocannabinoid system (ECS) – connects and brings balance to all our systems. The outside and inside of our cells are loaded with receptors for endocannabinoids. Our cells communicate to tissues and other cells and systems via the endocannabinoid system.

Multicellular organisms (ligands) communicate using chemical signals to other cells with matching receptors ready to receive the signals, including the molecules of cannabinoids. Once a molecule binds to the receptor, the molecular structure causes reactions to take place that affect organs, tissues, and other cells. This intracellular communication, particularly within the

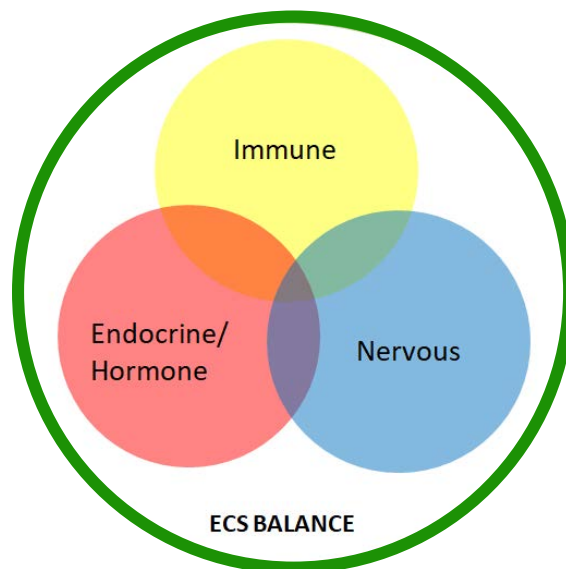
About 30 years ago, Israeli scientists discovered many compounds, called cannabinoids, that had beneficial effects on the nervous system of humans.



endocannabinoid system, affects most other systems in your body.

In fact, the ECS regulates the body's biochemistry of almost 40 trillion cells. It shifts into high gear whenever triggered by an emotional, mental, or physical event – when cellular homeostasis becomes unbalanced. Whether it's from the stress of our job, a toxic environment, financial burdens, relationship issues, kids, or unhealthy food, prolonged strain on our minds, emotions, or bodies leads to eventual dysfunction, chronic disease, and breakdowns — it all begins with the ECS. Impacting our adrenal glands, stress of any kind creates and releases increased cortisol. Endocannabinoids are produced in the gut affecting the brain-gut connection. To function optimally, the immune, nervous, and endocrine/hormone systems must be in proper balance and the ECS provides the framework.⁷

The ECS regulates the body's biochemistry of almost 40 trillion cells. It shifts into high gear whenever triggered by an emotional, mental, or physical event – when cellular homeostasis becomes unbalanced.



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The Role of CBD and Stress Management

Cannabidiol, or CBD, has been well-studied for stress management and prevention. CBD as a supplement helps reduce the symptoms of mood disorders, anxiety, depression, sleep issues,

fatigue, immune weaknesses, and general stress levels. In addition, CBD is a defense for the adrenal glands, thyroid, and brain against some of the effects of stress. It is also a factor in the body's cortisol and neurotransmitters production.

Two of the most important endocannabinoids that our bodies produce are anandamide and 2-arachidonoyl glycerol (2-AG). These human-produced chemicals have similar effects in the body as the plant cannabinoids, delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD), that you probably have heard so much about over the last several years.

Anandamide

Our focus here is the endocannabinoid called anandamide, which was discovered in 1992. The name anandamide is derived from the Sanskrit word Ananda, which means happiness, pleasure, joy, and delight. Anandamide is also known as “the bliss molecule.” There are ways we can naturally increase the effectiveness of our body's ability to manufacture and use this bliss molecule.

By either decreasing the breakdown, or increasing the production of anandamide, we can enjoy more of the happy health benefits of this naturally occurring cannabinoid. To decrease the breakdown of anandamide, select choice foods such as: minimally processed chocolate (such as cocoa powder and unsweetened cacao wafers or nibs), truffles, black pepper, apples, and blackberries.

To increase the production and effectiveness of anandamide naturally, participate in as many of the following suggestions as are right for you:

- **Exercise** – In as little as 2 minutes a day of intense exercise, you can increase your production of anandamide and improve the sensitivity of its receptors.



- **Touch** – Increase your natural Oxytocin to stimulate production of anandamide by making time to touch and be touched. This includes all forms of positive physical touch – hugs, cuddles, massage, petting an animal, and making love. One study showed blood anandamide levels increased by 168% after an osteopathic manipulative treatment (OMT).⁴ (OMT focuses on soft tissue manipulation and stretching as a type of holistic care. It differs from a chiropractic adjustment which primarily concentrates on bones and joints, especially those in the spine.)
- **Mindful presence** – Choose to be fully present in a healthy activity. It could be yoga, meditation, listening to music, or giving others your undivided attention.
- **Food choices** – Our bodies make endocannabinoids from the precursors of Omegas 3 and 6 found in virgin olive oil, fatty fish, walnuts, and eggs.
- **Palmitoylethanolamide (PEA)** – Another endocannabinoid, PEA, is

found in soybeans, green coffee, and raw peanuts as well as nutritional supplements.⁵

- **CBD/hemp supplements** – although these supplements must contain less than 0.3% THC (dry weight) to be legally sold in the United States, they increase overall amounts of anandamide by decreasing its breakdown from the enzyme Fatty Acid Amide Hydrolase (FAAH). To get the best results it's important to obtain good quality supplements.⁶

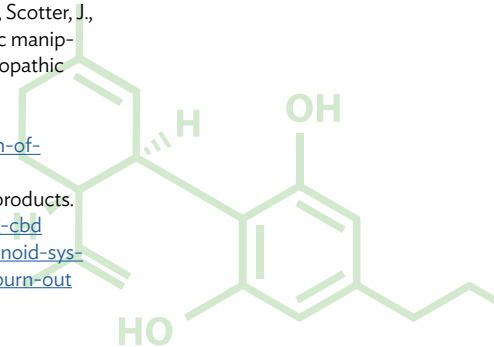
Recap – The keys to holiday bliss? Take time to touch and be touched. Listen to music and be present with loved ones. Eat some chocolate and smoked salmon. Savor the simple sweet and small bits of life. And be kind to yourself.

Yours in health and happiness,
Dr. Sharon

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Sharon Montes, MD, FAIS is a pioneer in holistic medicine. She served as both medical and education director at the University of Maryland Center for Integrative Medicine and has practiced and taught integrative medicine for over 30 years. Co-Founder of the thriving integrative practice, Living Well Health Group, based in Loveland Colorado; Dr Montes works with game changers of all ages to help them develop greater resilience. If you would like to receive a free e-book or get information about other programs, including the Heart-Centered Stress Management Program, visit www.livingwellhealthgroup.com.





THE COST OF STRESS.

The more we learn, the more vital our mission becomes.

The American Institute of Stress is the only organization in the world solely created and dedicated to study the science of stress and the advancement of innovative and scientifically based stress management techniques. AIS provides the latest evidence-based knowledge, research and management techniques for stress and stress-related disorders.

Groundbreaking insights and approaches. World-changing mission.

Hans Selye, MD, PhD (1907–1982), is known as the father of stress research. In the 1920s, Selye coined the term “stress” in the context of explaining his pioneering research into



the signs and symptoms of disease curiously common in the majority of people who were ill, regardless of the diagnoses. Selye’s concept of stress was revolutionary then, and it has only grown in significance in the century since he

began his work. Founded in 1978 at Dr. Selye’s request, the American Institute of Stress (AIS) continues his legacy of advancing the understanding of stress and its enormous

impacts on health and well-being worldwide, both on an individual and societal level.

A forthcoming AIS initiative – called **Engage. Empower. Educate.** – will leverage the latest research, tools and best practices for managing stress to make a difference in a world increasingly impacted by the effects of stress out of control. We hope you will consider supporting this critical outreach campaign.



[Click to view *The American Institute of Stress Case Statement*](#)

A campaign to Engage. Empower. Educate.

The AIS campaign will support three key initiatives:

Engage communities through public outreach



Improve the health and well-being of our communities and the world by serving as a nonprofit clearinghouse for information on all stress-related subjects.

The American Institute of Stress produces and disseminates a significant amount of evidence-based information, but there is a need to share this material with a wider audience in the U.S. and around the world.

Support for this initiative will provide funding to expand the organization's public outreach for its website and social media, documentary films, magazines, podcasts, blogs and courses.

Empower professionals through best practices



Establish credentials, best practices, and standards of excellence for stress management and fostering intellectual discovery among scientists, healthcare professionals, medical practitioners and others in related fields.

AIS provides DAIS (Diplomate, AIS) and FAIS (Fellow, AIS) credentials for qualified healthcare professionals.

The AIS seal means a practitioner has training and experience in stress management and access to the latest stress research and techniques. It designates their practices as advanced treatment centers for stress-related illnesses.

Support for this initiative will provide funding to continually update best practices in the field.

Educate all through the development and dissemination of evidence-based information



Develop and provide information, training and techniques for use in education, research, clinical care and the workplace. Some of the research-based information AIS develops and disseminates includes:

- Productions – *Mismatched: Your Brain Under Stress*, a six-part documentary featuring some of the world's leading experts on stress. Released in March 2021.
- Publications – *Contentment* magazine and *Combat Stress* magazine for service members, veterans and first responders.
- Podcasts, webinars and website resources – The free podcast series *Finding Contentment*



The American Institute of Stress

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