

The American Institute of Stress

CONTENTMENT

Connecting the Relationship Between Stress, Health and Longevity

Volume 12 Number 2

Summer 2023



Connecting Chronic Stress with Chronic Pain

Inside: Myofascial Release for Stress Reduction, By John F. Barnes • Rhodiola: The Clinical Applications of a Phytomedicine Adaptogen for Chronic Stress and Chronic Pain, By Stephanie Maxine Ross • Outside Job: A wide-angle view of stress, pain, and scope of practice, By Frank Forench • Chronic Pain Does Not Occur in Isolation: Treat All Aspects with Alpha-Stim,[®] By Josh Briley



The mission of the nonprofit American Institute of Stress is to improve the health of our community and the world by setting the standard of excellence of stress management in education, research, clinical care and the workplace. Diverse and inclusive, AIS educates healthcare practitioners, scientists, and the public. AIS is the only Institute in America solely dedicated to providing information, training and techniques to prevent and reverse human disorders related to stress, and to improve the quality of life and increase longevity through building resilience to stress. Credentialed AIS members provide 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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BODY ELECTRIC

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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.



CONTENTS

Volume 12 | Number 2

Summer 2023

4 **Editor's Message**
By Stephanie Maxine Ross, PhD, MHD, HT, CNC, FAIS

6 **Myofascial Release for Stress Reduction**
By John F. Barnes, PT
The fascial system connects to every aspect of our body without interruption and acts as a fiberoptic carrying enormous amounts of information in a very short period of time. Fascial restrictions are one of the primary causes for most of the pain, emotional upheaval, and stress in people's lives.

14 **Rhodiola: The Clinical Applications of a Phytomedicine Adaptogen for Chronic Stress and Chronic Pain**
By Stephanie Maxine Ross, PhD, MHD, HT, CNC, FAIS
Rhodiola rosea is a multipurpose medicinal plant with adaptogenic properties that has the ability to increase the body's nonspecific resistance and normalizing functions to different stressors, including those of an emotional, mental, and physical origin.

24 **Outside Job, A wide-angle view of stress, pain, and scope of practice**
By Frank Forencich, DAIS
For native and indigenous people, the human body has always been intimately connected to the entire world: mind, body, spirit, land, tribe and ancestry are held to be essential elements of this holistic view. Native people assume a continuity and permeability between inside and outside, the internal and the external.

30 **Chronic Pain Does Not Occur in Isolation: Treat All Aspects with Alpha-Stim®**
By Josh Briley, PhD, BCMAS, FAIS
There is an escalating cycle between chronic pain and chronic stress, if unaddressed, it often results in anxiety and insomnia that further impact the patient's life. Alpha-Stim, an evidenced-based medical device has demonstrated its effectiveness to simultaneously relieve pain, anxiety and insomnia.



Editor's Message

Stephanie Maxine Ross, PhD, MHD, HT, CNC, FAIS
Editor



Chronic stress and chronic pain are two distinguishable yet overlapping processes presenting multiple conceptual and physiological overlaps.¹ Stress is broadly defined as a process by which a challenging emotional or physiological event or series of events result in adaptive or maladaptive changes required to regain homeostasis.² On the other hand, pain is defined as the collection of emotional and sensory perceptions, as well as motor behaviors, resulting from the activation of the nociceptive pathways in response to harmful stimuli. The ability of an organism to adapt to stress or pain by regulating the internal environment and maintaining stability is termed allostasis.

Both stress and pain phenomena challenge the body's homeostasis and require decision-making to help humans/animals to adapt to their environment. Pain and stress are both adaptive in protecting the organism, however, if either of the two processes becomes chronic, it can lead to long-term "maladaptive" changes in physiology and consequently behavior, resulting in suffering and compromised well-being.³ In addition, the heightened experience of chronic stress and chronic pain share a behavioral commonality in their ability to store negative memories associated with the traumatic event.

This issue of Contentment magazine focuses on the connection between chronic stress and chronic pain and highlights evidenced-based, non-pharmacological integrative therapies that are effective

in reducing symptoms and regaining homeostasis.

John F. Barnes, PT, is an international lecturer, author and renowned expert in the area of myofascial release, both visionary and inspirational leader, which has garnered him the title, "father of myofascial release." He is the owner, director and chief physical therapist of the "Sanctuary Myofascial Release Treatment Center" located in Malvern, Pennsylvania and "Therapy on the Rocks Myofascial Release Treatment Center" in Sedona, Arizona. In addition to treating patients from around the world, he has created an educational training center, Myofascial Release Seminars, where he has trained over 100,000 therapists and physicians in his highly successful Myofascial Release Approach.[®]

In his feature article, "Myofascial Release for Stress Reduction" he describes fascia as a specialized system that plays an important role in the support and function of our bodies, and how traumatic events can cause myofascial restrictions that affect our flexibility and stability and serve as a determining factor in our ability to withstand stress and perform daily activities.

Stephanie Ross, PhD, MHD, HT, FAIS is an internationally recognized leader in Integrative Health. She served as the Founding Director of the Department of Complementary and Integrative Health at Drexel University, a pioneering program that partnered with the Andrew Weil Center for Integrative Medicine.

Dr. Ross features, "Rhodiola, The Clinical Applications of a Phytomedicine Adaptogen for Chronic Stress and Chronic

Pain,” which provides a review of clinical evidence that supports Rhodiola as a supportive phytomedicine (botanical medicine) in addressing stress, and stress-related conditions, such as anxiety, insomnia, and chronic pain.

Frank Forencich, DAIS has successfully integrated his background in human biology and neuroscience with martial arts and health education. He has a keen interest in human origins and the ancestral environment, and has presented at numerous venues including the Ancestral Health Symposium. A former columnist for Paleo Magazine, Frank is the author of numerous books about health and the human predicament including *Beware False Tigers* and *The Enemy is Never Wrong*.

In his article “Outside Job, A wide-angle view of stress, pain, and scope of practice,” he points out that “stress and pain are surging through the collective experience of humanity like wildfire.” He contends that in order to be effective in the treatment of stress and pain, we must embrace a holistic treatment perspective, one that includes ‘the health environment within us, and the surrounding environment outside of us,’ which requires a multi-faceted, interdisciplinary team of health professionals.

Josh Briley, PhD, BCMAS, FAIS is a licensed clinical psychologist and the Clinical Education Director at Electromedical Products International, Inc. Dr. Briley holds a broad range of clinical expertise including drug treatment, crisis intervention, group therapy for PTSD, depression, anxiety and chronic pain treatment.

His feature article, “Chronic Pain Does Not Occur in Isolation: Treat All Aspects with Alpha-Stim,[®]” explores the escalating cycle between chronic pain and chronic stress and how, if unaddressed, often results in anxiety and insomnia that further impact the patient’s life. In addition, his article provides a review of Alpha Stim, an evidenced-based medical device that simultaneously relieves pain, anxiety and insomnia, and chronicles, through specific case-based examples, the positive treatment outcomes enjoyed by patients using Alpha-Stim.

In closing, my hope is that each of us find a relaxing and peace-filled summer by appreciating those who surround us, by enjoying the gifts that nature provides us, and by embracing our wisdom to help guide us through challenging times.

My best,

Stephanie

References

1. Vachon-Preseau E, Roy M, Martel MO, et al. The stress model of chronic pain: evidence from basal cortisol and hippocampal structure and function in humans. *Brain* 2013; 136: 815–827.
2. Sinha R and Jastreboff AM. Stress as a common risk factor for obesity and addiction. *Biol Psychiatry* 2013; 73: 827–835.
3. Bair MJ, Robinson RL, Katon W and Kroenke K. Depression and pain comorbidity: a literature review. *Arch Intern Med* 2003; 163: 2433–2445.



MYOFASCIAL RELEASE *for* STRESS REDUCTION

By John F. Barnes, PT
*President and CEO of the Myofascial
Release Treatment Centers & Seminars*

The old adage that time heals all wounds in my experience is not accurate. I have found from over 60 years' experience as a Physical Therapist that time does not heal all wounds. It buries the trauma deeper and deeper into the fascial system of our body. This has to do with a phenomenon called tissue memory that's not just in the brain and neurological system but actually lies in every cell.

The Fascia is a specialized system of the body that has an appearance similar to a spider's web or a knitted sweater. Fascia is very densely woven, covering and interpenetrating every muscle, bone, nerve, artery and vein, as well as, our internal organs including the heart, lungs, brain and spinal cord. The most interesting aspect of the fascial system is that it is not just a system of separate coverings, it is actually one continuous structure that exists from head to toe without interruption. In this way you can begin to see that each part of the entire body is connected to every other part by the fascia, like the yarn in a sweater. Trauma, inflammatory responses, and/or surgical procedures create Myofascial restrictions that can produce tensile pressures of up to approximately 2,000 pounds per square inch on pain sensitive structures that do not show up in many of the standard tests

(x-rays, myelograms, CAT scans, electromyography, etc.) A high percentage of people suffering with pain and/or lack of motion may be having fascial problems that are not diagnosed.



Myofascial Restrictions

Fascia plays an important role in the support and function of our bodies, since it surrounds and attaches to all structures. In the normal healthy state, the fascia is relaxed and wavy in configuration. It has the ability to stretch and move without restriction. When one experiences physical

trauma, emotional trauma, scarring, or inflammation, however, the fascia loses its pliability. It becomes tight, restricted, and a source of tension to the rest of the body. Trauma, such as a fall, car accident, whiplash, surgery or just habitual poor posture and repetitive stress injuries has cumula-

emotional upheaval, and stress in people's lives. Interesting to note that the research on the fascial system has been done on cadavers. As you know, dead people are brittle and have no consciousness. This is the model of reality that most healthcare professionals learn.



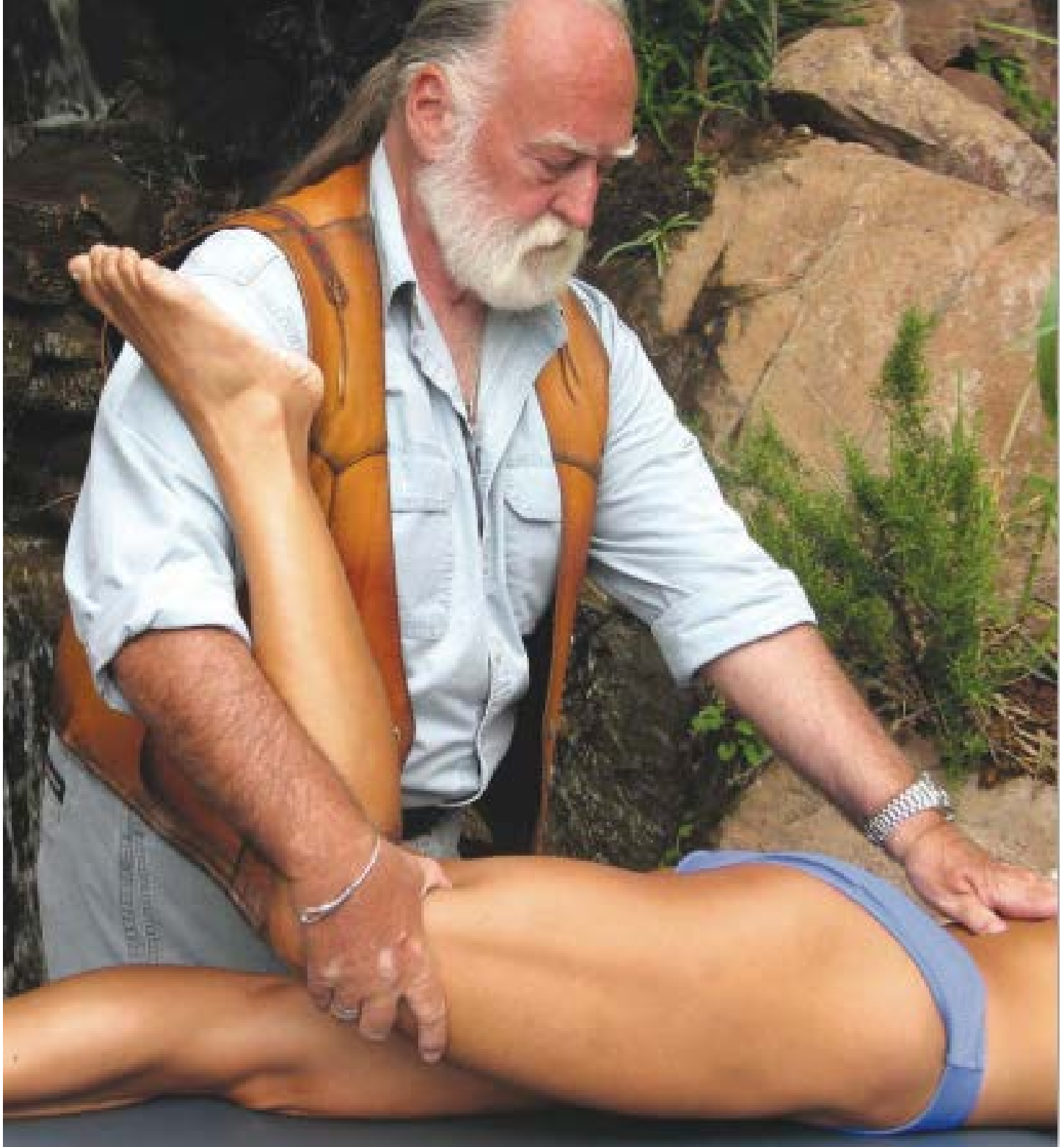
tive effects on the body. The changes trauma causes in the fascial system influences comfort and function of our body. Fascial restrictions can exert excessive pressure causing all kinds of symptoms producing pain, headaches or restriction of motion. Fascial restrictions affect our flexibility and stability and are a determining factor in our ability to withstand stress and perform daily activities.

The fascial system connects to every aspect of our body without interruption and acts as a fiberoptic carrying enormous amounts of information in a very short period of time. Myofascial restrictions that result from physical, emotional or surgical trauma can block the information needed for recovery from our conscious mind. Therefore, all forms of traditional therapy and massage focus on the symptomatic complex which is basically the tip of the iceberg. From our experience, fascial restrictions are one of the primary causes for most of the pain,

John F. Barnes Myofascial Release

I have had the opportunity of training over 100,000 physicians and therapists in my approach to myofascial release which I have been teaching for over 50 years. Myofascial Release's main purpose is to reduce pain, restore motion and reduce stress. There is an increasing body of supportive research and information about this phenomenon.

Fascia is tough tissue with an elastic and muscular component and a collagenous component, unfortunately, this information has not been available in our training as physicians and therapists. Fascial restrictions can generate enormous pressures in the body and brain, and neurological system somewhere up to approximately 2000 pounds per square inch from physical or emotional trauma. The frustrating part is that fascial restrictions, which can begin early in life, can



accumulate and do not show in any of the standard testing i.e. X-rays, CAT scans, MRI's, myelograms, bloodwork, etc. So myofascial restrictions have essentially gone undiagnosed and therefore are not properly treated in therapeutic interventions. Myofascial Release, because it uses gentle, sustained pressure never causes injury and can be highly effective in most people. Because of our success, a

lot of copy-cat courses have popped up calling themselves Myofascial Release, but they teach what I call the old form of myofascial release, which uses too much pressure and can actually produce trauma and stress within the body. The principles that I have developed open up the elastic and muscular component, but also the collagenous barrier which other forms of therapy do not address. Within the collag-



enous barriers lie memories and information that is essential for our physiological functioning and calmness of mind. What I have found is that most forms of manual therapy are performed too quickly. For example, with joint mobilization and manipulation, you are in and out of the system quite quickly, and with massage you are rubbing over or trying to force through the restriction. This does not release the fascial system fully and unfortunately only gives temporary results.

Myofascial Release properly performed holds at the restricted area for a number of minutes and only around the five-minute period does a number of phenomena occur that contribute to authentic, lasting healing. These phenomena are called the Piezoelectric Effect, followed by Mechanotransduction, coupled with Phase Transition and ultimately Resonance, which is another word for release.

Candace Pert PhD, the renowned researcher, developed the Endorphin Theory many decades ago. In her book, *“The Molecules of Emotion”* she states that

every cell possesses memory, emotions and information. Her research work has focused on the neuropeptide system which is the physical substrate of our emotions and essential information that passes thru the billions of microtubules of the fascial system at enormous speeds. This sensory information then interacts with the brain and nervous system and becomes conscious.

All forms of therapy have to do with our intellectual rational side which I have labeled “channel 5.” Unfortunately, we don’t heal in the channel 5 world from the Myofascial perspective. However, Myofascial Release, in a very safe, efficient, and highly effective way, moves us into what I call our channel 3 consciousness which is our intuitive, instinctual side, otherwise known as the healing zone. Another word for this is our “feeling intelligence” or wisdom, which is vast compared to our intellectual side.

Our experience has shown that the body is capable of self-correction. A missing link in healthcare has been utilizing

myofascial release to open up the collagenous barrier of the fascial system. As a result, the flight, fight, or freeze response that too many people have become trapped in, despite all the therapy they have had, creates horrendous stress in their system and pain. Utilizing Myofascial Release releases fascial restrictions, and allows the body to return to its normal homeostatic state.

If you are interested in receiving Myofascial Release for yourself or for referring your clients or patients, go to our website www.myofascialrelease.com where there is a directory to find a Myofascial Release therapist near you.

Myofascial Release is truly the missing link in the reduction of pain, restoration of function and the reduction of stress coupled with your area of expertise.

References

- Davis, Carol M., DPT, EdD, MS, FAPTA. (2016). Integrative Therapies in Rehabilitation: Evidence for Efficacy in Therapy. Slack, Incorporated.
- Fernández-Pérez AM, Peralta-Ramírez MI, Pilat A, Moreno-Lorenzo C, Villaverde-Gutierrez C, Arroyo-Morales M. Can myofascial techniques modify immunological parameters? J

Alt Compl Med. 2013;19(1):24-28.

- Guimberteau, Dr. Jean-Claude. (2015). Architecture of Human Living Fascia: Cells and Extracellular Matrix as Revealed by Endoscopy. Handspring, Edinburgh.
- Hammeroff SR. Quantum coherence in microtubules: a neural basis for emergent consciousness. J Consciousness Studies. 1994;1 (91-118)
- Hicks MR, Cao TV, Campbell DH, Standley PR. Mechanical Strain Applied to Human Fibroblasts Differentially Regulates Skeletal Myoblast Differentiation. J Appl Physiol. 2012
- Ingber DE. Cellular mechanotransduction: putting all the pieces together again. FASEB J. 2006; 20(7):811-827
- Katake, K. The Strength for Tension and Bursting of Human Fascia. J Kyoto Pref Med Univ. 1961; 69: 484-488.
- Langevin HM. Connective tissue: a body-wide signaling network? Med Hypotheses. 2006; 66(6):1074-1077
- Meltzer KR, Standley PR. Modeled repetitive motion strain and indirect osteopathic manipulative techniques in regulation of human fibroblast proliferation and interleukin secretion. J Am Osteopath Assoc. 2007 Dec;107(12):527-36.
- Meltzer KR, Cao TV, Shad JF, King H, Stoll ST, Standley PR. In Vitro Modeling of Repetitive Motion Injury and Myofascial Release. J Bodyw Mov Ther. 2010 14(2): 162-171.
- Oschman JL. Energy Medicine: The Scientific Basis. 2nd ed. New York, New York: Elsevier; 2016.
- Oschman JL. Fascia as a body-wide communication system. In: Schleip R, Findley TW, Chaitow L, Huijing PA, eds. Fascia: The Tensional Network of the Human Body: The Science and Clinical Applications in Manual and Movement Therapy. Edinburgh, Scotland: Elsevier; 2012
- Penrose R. Shadows of the Mind: A Search for the Missing Science of Consciousness. Oxford England: Oxford University Press; 1994
- Pert CB. Molecules of Emotion: Why You Feel the Way You Feel. New York, NY: Simon & Schuster; 1997.
- Pischinger A. The Extracellular Matrix and Ground Regulation: Basis for a Holistic Biological Medicine. Heine H, Eibl I, eds. Berkely, CA North: North Atlantic Books; 2007.

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John F. Barnes, PT, is an international lecturer, author and renown expert in the area of myofascial release. He has been treating patients since 1960 and is the owner, director and chief physical therapist of the “Sanctuary Myofascial Release Treatment Center” in Malvern, Pennsylvania and “Therapy on the Rocks Myofascial Release Treatment Center” in Sedona, Arizona.

In addition to treating patients from around the world, John also manages a successful educational company, Myofascial Release Seminars. During the 1970’s he began developing his Myofascial Release Approach® and teaching his seminars. He has trained over 100,000 therapists and physicians in his highly successful Myofascial Release Approach®.

John F. Barnes, PT is the author of Myofascial Release: The Search for Excellence (Rehabilitation Services Inc., 1990) and Healing Ancient Wounds: The Renegade’s Wisdom (Myofascial Release Treatment Centers & Seminars, 2000). He has been the featured speaker at the American Back Society symposiums for over 25 years. The American Back Society is comprised of neurosurgeons, orthopedic surgeons, psychiatrists, therapists and TMJ specialists whose focus has been the most important advances in healthcare in the last century. John F. Barnes is known as the “Father of Myofascial Release” and was named one of the most influential persons in the therapeutic profession in the last century, in the national Massage Magazine’s featured article titled “Stars of the Century.”

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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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Rhodiola

*The Clinical
Applications of a
Phytomedicine
Adaptogen for
Chronic Stress and
Chronic Pain*

By Stephanie Maxine Ross, PhD, MHD, HT, CNC, FAIS

Current research continues to reinforce the indelible connection between stress and overall health. “Stress” is defined as a perceived or actual disturbance in the balance of the mind/body, brain, and spirit complex. It can occur with or without conscious feelings of anxiety, stress, or anger. Stress can be acute (short term) or chronic (long term, e.g., >3

months). Stress can range from short-term daily hassles to long-term unsettling conditions that can compromise an individual’s health and well-being. Chronic stress has been shown to be associated with an increased incidence of numerous health conditions, including anxiety, depression, hypertension, gastrointestinal disorders, and chronic pain.

Clinical studies have confirmed that *Rhodiola rosea* is an effective psychostimulant, general strengthener, and an anti-stress agent. These medicinal effects

Clinical studies have confirmed that *Rhodiola rosea* is an effective psychostimulant, general strengthener, and an anti-stress agent.



have been referenced in numerous studies addressing stress-related depression and anxiety, fatigue, chronic pain, cardiovascular disease, physical strength and endurance, impotence, high-altitude sickness, and nervous system disorders. As a dietary supplement, numerous preparations of *Rhodiola* are used worldwide. This article provides a review of the common uses of *Rhodiola rosea*.

rocks of Arctic regions of Europe, Asia (primarily Siberia), and in the eastern coastal regions of North America.¹ Roseroot grows to a height of approximately 30 in (70 cm) with unbranched stems that are surrounded by alternately arranged, fleshy leaves. Small, yellow flowers form an inflorescence at the stem apex, emitting the characteristic floral scent of roses, which imparts its name.

R*hodiola*, or **Golden Root** as it was known in ancient times, has a long history of medicinal use that dates back more than 2000 years.

Phytomedicine Profile

R*hodiola rosea* L. (Fam: Crassulaceae) is commonly known as *Rhodiola*, Rose-root, Arctic Root, or Golden Root. The yellow-flowered herbaceous perennial grows naturally at high altitudes in dry sandy soil on sea cliffs and in the crevices of mountain

Traditional medicinal uses

Rhodiola, or Golden Root as it was known in ancient times, has a long history of medicinal use that dates back more than 2000 years. The Greek physician Dioscorides first recorded the medicinal applications of *Rodiariza* in 77 AD in his classic medical text *De Materia Medica*,



the first known drug reference of the Western world.²⁻⁴ According to historical accounts, the Vikings used Golden Root as a medicine for enhancing physical strength and endurance. Golden Root preparations were used extensively in traditional Tibetan medicine since 300 AD for treating lung disorders, particularly those attributed to lung-heat imbalances. During the 18th century, Carolus Linnaeus,⁵ the Swedish Botanist who is recognized as the “Father of Taxonomy,” renamed the medicinal plant *Rhodiola rosea* for the rose-like aroma of the flowers and freshly cut rootstock. Linnaeus described *Rhodiola* root as an astringent for the treatment of leukorrhea and as a tonic for addressing hysteria and headache. In 1755, the medicinal properties of *Rhodiola rosea* were included in the first Swedish pharmacopoeia.⁶ In the early 19th century, preparations of *Rhodiola rosea* were used in France as a “brain tonic,” while in

Germany, researchers ascribed the plant’s medicinal properties for headaches, pain relief, hemorrhoids, as a stimulant, and for its anti-inflammatory actions. In Middle Asia, an infusion (tea) of *Rhodiola rosea* was used as an effective treatment for colds and flu. Throughout Eastern Europe and Asia, *Rhodiola rosea* was used traditionally as a tonic to increase mental and physical performance, strength, and endurance.

Current medicinal applications

Rhodiola rosea is a multipurpose medicinal plant with adaptogenic properties that has the ability to increase the body’s nonspecific resistance and normalizing functions to different stressors, including those of an emotional, mental, and physical origin. *Rhodiola* is one of the most popular adaptogens used in official Russian medicine and has been published extensively. It was



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The chemical composition of *Rhodiola rosea* roots and rhizomes consist of approximately 140 isolated compounds, including essential oils, fats, waxes, glycosides, sterols, organic acids, and phenolics, including proteins and tannins.

first recommended in 1969 by the Pharmacological Committee of the Ministry of Health of the USSR for medicinal use as a stimulant agent for asthenia, in cases of neuroses, neurotic disorders and psychopathies, borderline nervous-mental diseases, and in healthy individuals to increase attention span, memory, work productivity and to relieve fatigue. In addition, extracts of *Rhodiola rosea* are indicated for the correction of neurological side effects associated with psychopharmacological therapy.⁷

Today, scientific research and clinical studies largely conducted in Russia and Scandinavia have confirmed that *Rhodiola* is an effective psychostimulant, general strengthener, and antistress agent.² It has been used for addressing stress-related depression and anxiety, fatigue, cardiovascular disease, infection, impotence, high altitude sickness, and numerous gastrointestinal ailments and nervous system disorders.⁸

Phytochemistry

The phytochemistry, pharmacology, and

medicinal properties of *Rhodiola rosea* are species dependent. Although more than 50 *Rhodiola* species have been identified, *Rhodiola rosea* has been the predominant focus of clinical studies that support its medicinal properties, with extensive toxicological studies that have determined its safety. The chemical composition of *Rhodiola rosea* roots and rhizomes consist of approximately 140 isolated compounds, including essential oils, fats, waxes, glycosides, sterols, organic acids, and phenolics, including proteins and tannins. *Rhodiola rosea* extracts that are used in most human clinical studies include the entire spectrum of chemical constituents and are standardized to a minimum of 3.0% rosavins and 0.8% to 1.0% salidroside (3:1) that serve as marker compounds.

Phytochemical analysis of *Rhodiola rosea* root has determined several different groups of chemical compounds. The dried root contains 0.05% essential oil with the main chemical class of monoterpene hydrocarbons (rosiridol, rosaridin) and geraniol as the most abundant volatiles



detected in the essential oils. Rosaridin was shown to inhibit monoamine oxidase A and B in vitro, suggesting its potential beneficial effect in depression and senile dementia.⁷⁻⁹ Geraniol was identified as the organic substance responsible for the rose-like aroma produced by *Rhodiola rosea* flowers and rootstock when cut. Phenylpropanoids (rosavin, rosin, and rosarin, collectively known as rosanins) are chemical actives specific to the *Rhodiola rosea* species.¹⁰ Phenylethanol derivatives (salidroside, also known as rhodioloside) are the constituents with known therapeutic activity. Biologically active compounds include phenolic glycosides (gallic acids, chlorogenic and hydroxycinnamic) with antifatigue, antidepressive, cognitive enhancing, anti-inflammatory, antiallergic, and hepatoprotective properties.^{7,9} Proanthocyanidins (flavonoids) constitute a large percentage of *Rhodiola* extracts and were noted for their bioactivities including antioxidant, anti-inflammatory, anticancer, antimutation, and antiaging effects, and improving liver function.¹¹

Phytopharmacology Adaptogenic Effects

The traditional use of *Rhodiola rosea* in Russia, as a phytomedicine for increasing mental and physical performance, strength, and endurance, stimulated extensive pharmacological research, which led to its classification as an adaptogen.

The soviet pharmacologists Brekhman and Dardymov coined the term “adaptogen,” which is defined, “as a substance that is innocuous and causes minimal disturbance of the normal physiological functions of an organism; has nonspecific actions (it increases resistance to a wide range of environmental, mental or physical stressors); and may possess a



normalizing action in the body irrespective of a disease state (eg, if the body parameter is low, the adaptogen will bring it up towards normal, if the parameter is high, the adaptogen will bring it down to normal).^{6,12} Translated in terms of their biochemical actions as metabolic regulators, the wide range of medical benefits and physiological actions of adaptogens may be explained by their effects on the immune, hormonal, central nervous system, cardiovascular, muscular regulatory systems, and so forth. Research phytopharmacologists believe that adaptogens reduce damage from stressors by mediating the organism’s defense system, more specifically the hypothalamic-pituitary-adrenal axis (HPA) and the efferent sympathoadrenal system.¹³

Intensive research that includes several hundred studies on *Rhodiola rosea* has provided evidence for its pharmacological effects and a more comprehensive understanding of its mechanism of action. These pharmacological effects are summarized as follows:¹⁴

- Adaptogenic and stress-protective effects
- Chronic pain effect
- Antifatigue effect
- Stimulating effect on the central nervous system, including effects on cognitive function (attention, memory, and learning)
- Cardioprotective effects
- Antioxidant effect
- Endocrine activity normalizing
- Antidepressive and anxiolytic effects
- Life span increasing effect

Relative to the medicinal applications of *Rhodiola rosea* for the treatment of stress-induced fatigue, its mechanism of action can be understood through its associated pharmacological effects on fatigue, mental performance, and resulting decrease in cortisol response to stress, which will be detailed in the research review.

Summary

Rhodiola rosea has demonstrated improvement in cognitive functions in fatigue, chronic pain and stressful conditions. Rhodiola rosea exerts its beneficial health effects on stress-induced disorders through modulation of cortisol, the most important stress marker. The modulation of cortisol levels is considered to be a primary mechanism of action of phytoadaptogens and is consistent with the results of clinical studies. In conclusion, Rhodiola rosea as a phytoadaptogen has the ability to increase attention and endurance in situations of decreased performance resulting from fatigue and reduces stress-induced impairments and disorders related to the physiology of the neuroendocrine and immune systems.

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Summarized pharmacological effects:

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- Antidepressive and anxiolytic effects
- Life span increasing effect

Potential Contraindications and Drug Interactions

Rhodiola rosea has been shown to have very few side effects. In some individuals who tend to be anxious, they may experience increased levels of activation or agitation necessitating a decrease in dosage. Since *Rhodiola rosea* is characterized by having an activating antidepressant effect, it is contraindicated in patients with bipolar disorder because it has the potential to induce mania in those individuals.

To date, *Rhodiola rosea* has not shown any adverse interactions with prescription drugs or with other phytomedicines. However, theoretically, *Rhodiola rosea* has the potential to enhance the action of stimulating medications and, therefore, should not be used concomitantly with these medications. Until further studies are performed, *Rhodiola rosea* should not be used during pregnancy or lactation.

References

1. International Foundation for Functional Gastrointestinal Disorders. <http://www.aboutibs.org/site/what-is-ibs/intro-to-ibs/stress-psychological-factors>. Accessed July 1, 2023.
2. Olsson EG, von Scheele B, Panossian AG. A randomized, double-blind, placebo-controlled, parallel-group study of the standardized extract SHR-5 of the roots of *Rhodiola rosea* in the treatment of subjects with stress-related fatigue. *Planta Med.* 2009; 75:105-112.
3. Saratikov AS, Krasnov EA. *Rhodiola rosea* (Golden Root). Tomsk, Russia: Tomsk University Publishing House; 2004:22-41.
4. Mell CD. Dyes, tannins, perfumes, and medicines from *Rhodiola rosea*. *Textile Colorist.* 1938;60(715):483-484.
5. Linnaeus C. *Materia Medica. Liber I. De Plantis.* Stockholm, Sweden: Lars Salvius; 1749:168.
6. Brown RP, Gerbarg PL, Ramazanov Z. *Rhodiola rosea*, a phytomedicinal overview. *Herbal Gram.* 2002; 56:40-52.
7. Panossian A, Wikman G, Sarris J. *Rosenroot (Rhodiola rosea): traditional use, chemical composition, pharmacology and clinical efficacy.* *Phytomedicine.* 2010; 17:881-493.
8. Morgan M, Bone K. *Rhodiola rosea-Rhodiola.* MediHerb Pty. Ltd. 2005; 47:1-4.
9. van Diermen D, Marston A, Bravo J, Reist M, Carrupt PA, Hostettmann K. Monoamine oxidase inhibition by *Rhodiola rosea* L. roots. *J Ethnopharmacol.* 2009; 122:397-401.
10. Dubichev AG, Kurkin BA, Zapesochay GG, Vornotzov ED. Study of *Rhodiola rosea* root chemical composition using HPLC. *Cemico- Pharmaceutical J.* 1991; 2:188-193.
11. Yousef GG, Grace MH, Cheng DM, Belolipov IV, Raskin I, Lila MA. Comparative phytochemical characterization of three *Rhodiola* species. *Phytochemistry.* 2006; 67:2380-2391.
12. Brekhman II, Dardymov IV. New substances of plant origin which increase non-specific resistance. *Ann Rev Pharmacol.* 1968;9: 419-430.
13. Panossian A, Wikman G, Wagner H. Plant adaptogens. III. Earlier and more recent aspects and concepts on their mode of action. *Phy- tomedicine.* 1999;6(4):287-300.
14. Panossian A, Wagner H. Stimulating effect of adaptogens: an overview with particular reference to their efficacy following single dose administration. *Phytother Res.* 2006; 19:819-838.

Dr. Stephanie Ross is an internationally recognized leader in Integrative Health. She served as clinical professor and the founding Director of the Department of Complementary and Integrative Health at Drexel University, College of Nursing and Health Professions, a pioneering program that partnered with the Andrew Weil Center for Integrative Medicine. Prior to Drexel, she initiated the first course in phytomedicine at Temple University School of Medicine, where she taught medical students. In addition to her scholarly achievements, Dr. Ross is a skilled and dedicated Integrative Health Practitioner, who guides her patients in achieving optimal health and wellness, with emphasis on integrative stress solutions. Dr. Ross has garnered numerous awards, is listed in *Who's Who in Health Sciences*, and is a Fellow of the American Institute of Stress where she serves on the Executive Advisory Board and as Editor of *Contentment*, their peer-reviewed international publication.



Ross is extensively published with more than 97 articles featured in international peer-reviewed journals that are cited in the National Institute of Health's Library of Medicine (PubMed). Dr. Ross serves as the Associate Editor for the peer-reviewed international *Holistic Nursing Practice* journal. She is a sought after consultant on Workplace Stress and a keynote speaker at Corporations and Healthcare Systems.

Dr. Ross offers telehealth and on-site consultations. She works primarily with patients who are referred by healthcare providers, providing a supportive interprofessional healthcare team approach to maximize health and well-being.

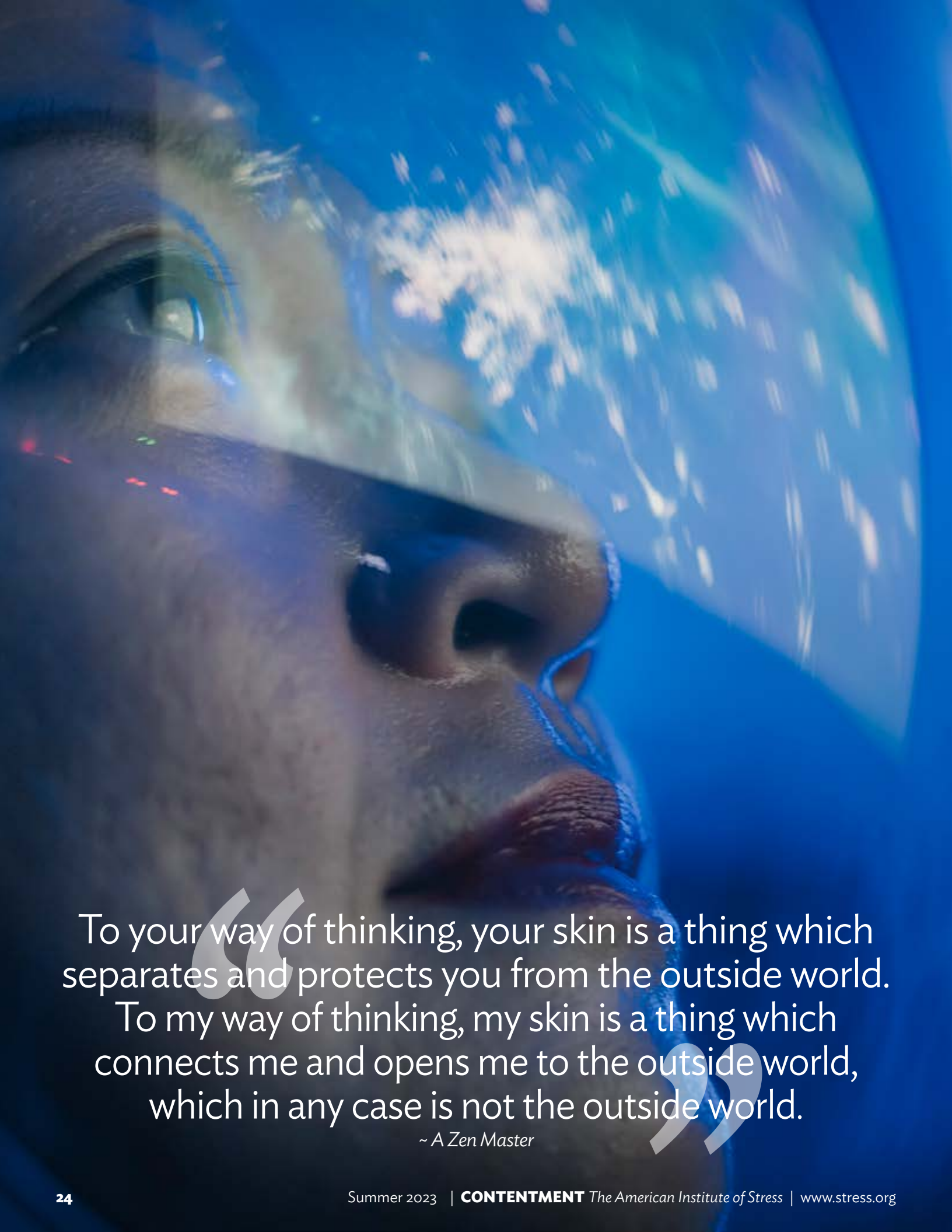
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To your way of thinking, your skin is a thing which separates and protects you from the outside world. To my way of thinking, my skin is a thing which connects me and opens me to the outside world, which in any case is not the outside world.

~ A Zen Master

OUTSIDE JOB

A wide-angle view of stress, pain, and scope of practice

By Frank Forencich, DAIS

The human animal is hurting. Our bodies are in pain, our minds are racing, and our spirits are hardening into a state of chronic contraction.

On any given day, it's hard to tell where one affliction leaves off and the other begins. Sometimes it feels like our physical pain has a mind of its own, a malicious beast that haunts our every waking moment. Other times it's the grinding stress that overwhelms us and makes us hypersensitive to the slightest physical insult. And on bad days it all merges into a single, toxic presence that drags us down into a physical, mental and spiritual quagmire.

The statistics, disturbing as they are, only tell a fraction of the story. In 1996, the World Health Organization declared stress a "worldwide epidemic." In 2022, the National Health Interview Survey found that more than 50 million adults reported pain on most days or every day.¹ But even a casual observation of the modern human experience reveals the extent of our suffering: overloaded mental health and physical therapists, addiction to opioids, an explosion of over-the-counter remedies, and a multi-billion-dollar pain relief industry. In short, stress and pain are surging through the collective experience of humanity like wildfire.

We would like to help alleviate one another's suffering, but where do we begin? As is our cultural habit, many modern practitioners start with a deep dive into the interior of the human body. We are quick to target inflammation, stenosis or misalignment, tissue injury, and above all, the neural wiring gone wrong. If we can adjust the state of the interior, so the thinking goes, we can calm the organism down and help it feel better. On the face of it, this sounds like a sensible approach, and sometimes it really works.

Life In Vivo

But the human animal does not live or function in isolation. Or, to put it in biological language, the body does not live in vitro (within glass), but rather in vivo (within the living). Our health, pain and stress are massively influenced by the external world. In other words, the various systems and processes inside the body are only half the story of pain and stress.

In fact, the power of the outside world has been affirmed by some of our most conservative institutions. The World Health Organization and The Centers for Disease Control and Prevention now recognize a range of non-medical factors that influence health outcomes.² These so-called determinants of health include social and economic conditions, as well

Taken together, modern science—coupled with indigenous knowledge—tells us that practically speaking, there is really no such thing as an isolated human animal. In other words, all health is public health.

as habitat and environment. We label these influences as “determinants of health,” but we might just as well call them “determinants of stress and pain.”

A similar understanding comes from epidemiologist Michael Marmot, described in his book *The Status Syndrome*.³ In his research, Marmot found a consistent and powerful pattern across populations and cultures. As he puts it, “health follows a social gradient.” People of high rank are likely to enjoy better health than people of lower rank, a condition that has little to do with access to health care, gym memberships or organic food. Rather, it has everything to do with perceptions of acceptance and belonging. And, while Marmot didn’t put it precisely this way, it is also safe to say that “pain and stress follow a social gradient.”

Even in the world of non-human animals, we see the power of the outside world. When psychologist Bruce Alexander observed conventional studies of addiction, he noted that the test animals (rodents) were kept in isolated cages, then presented with various “addictive” substances. Not surprisingly, many in fact became addicted. But Alexander protested this alien condition and instead built a more appropriate setting for his animals. This now famous “rat park” included everything a rodent might desire: friends, running wheels, places to hide and things to play with. Then, when the so-called “addictive” substances were introduced, few of the animals became addicted. Obviously, they had better things to do with their time.⁴

Likewise, a growing body of evidence shows the subtle power of contagion between human bodies and nervous systems. We know, for example, that fear and anxiety can spread by way

of pheromones produced in human sweat. We know that mirror neurons in the brain respond to the posture and facial expressions of others, allowing us to run emotional simulations and feel their experience in our own bodies. In the process, we co-regulate the activity of one another’s autonomic nervous systems. If the people around you are going into fight-flight or feed-and-breed, there’s a good chance that you’ll follow along, even without realizing it.

None of which would come as a surprise to pioneering physician George Engel (1913-1999). In 1977, he advanced a *biopsychosocial* model as a holistic alternative to the prevailing biomedical model that has dominated industrialized societies since the mid-20th century.⁵ Engel recognized the power of context, setting, and predicament on the human organism and encouraged the modern physician to take a more expansive view of medical practice. We can be certain that Engel would have agreed that psychological and social processes have a profound impact on our experience of stress and pain.

No Standalone Humans

All of which makes good sense, but from another perspective, this new wave of holistic thinking begins to sound like a rehash of old news. For native and indigenous people, the human body has always been intimately connected to the entire world: mind, body, spirit, land, tribe and ancestry are held to be essential elements of this holistic view. Native people assume a continuity and permeability between inside and outside, the internal and the external. The skin is not a boundary or a barrier, but a sensing organ, a living conduit to the world. In fact, the work of the traditional shaman was expansive

and radically inclusive: the objective was to realign internal and external processes with the flux and flow of the cosmos. Native people would find our modern notion of isolated pain and stress to be ill-conceived and even ignorant.

to the scope of modern medical practice. In conventional view, the physician works inside the body while public health professionals and activists work on the outside. This conceptual division of labor gives us efficiency and occasional success,



Taken together, modern science–coupled with indigenous knowledge–tells us that practically speaking, there is really no such thing as an isolated human animal. In other words, all health is public health. Likewise, any attempt to place people in isolated circumstances–imagine our various forms of solitary confinement–is rightly considered a form of torture. And yet, modern medical practice persists in treating people in just such a manner. It’s no wonder that we get such mixed results, especially in the domain of psycho-social afflictions, stress, pain, and lifestyle disease. As social critic Ivan Illich would have put it, modern biomedicine can actually deepen our sense of alienation, separation and angst. As he put it in his landmark *Medical Nemesis*, modern medicine might even be considered iatrogenic—a cause, not a solution to our suffering.

All of this represents a serious challenge

but it’s also artificial and can even be counterproductive. The problem is that scope of practice is now determined, not by an actual understanding of human biology itself, but by tradition, habit, and legal constraint. Today’s physician works inside the body because that’s how we’ve always done it in the modern world. And even worse, these boundaries are constantly policed by malpractice attorneys and unhappy patients. Woe to the physician who ventures beyond the skin.

One Health

If we’re going to be effective in the treatment of stress and pain, it makes sense to use all of the tools available. In other words, we must try to be holistic, to work both inside and outside the organism whenever possible. But how do we apply these outside methods and orientations? We can hardly expect the modern physician to fix the entire

world as a method for treating the pain in our shoulders, spines, hips and knees, but we can look for a more expansive orientation.

This is precisely what we see in the modern “One Health” perspective, an interdisciplinary alliance of veterinarians, physicians and other health professionals. This collaboration emphasizes the shared experience of humans, non-human animals, and their environment. It also argues for multi-disciplinary approaches to prevention, education, and policy development. Much of the work in the One Health domain has focused on infectious diseases and the spread of pathogens, but it’s safe to assume continuities across the animal kingdom. That is, the pain and stress experienced by non-human animals is likely to be similar if not identical to our own. What works in one domain is likely to work in the other.

Naturally, skeptics and policy makers will want to know the specific details of how these “outside” methods might work. They want us to map the causalities involved and show direct, linear relationships between action and effect. If we can demonstrate reliable causal relationships between outside and inside, we might be able to persuade government officials to fund our efforts. But sadly, these processes are impossible to track with precision. Hyper-complex organisms are in constant dialogue with their hyper-complex surroundings

and as Heraclitus would have put it, you can’t step into the same body or the same habitat twice.

Nevertheless, we know enough to go on. We know that when it comes to stress and pain, context matters a great deal and that the outside is powerfully influential on the overall condition of the human body. Whether it’s habitat conservation, wildlife protection, education, public health, or social justice, working on the outside is likely to have powerful effects on the inside as well. This is why activism can and should be described as a form of medicine in its own right. Take care of the whole and you’re taking care of all the parts of the whole. Heal the world and you heal the creatures who live in the world. In the end, it’s all one thing. Health, as the writer and environmental activist Wendell Berry put it, is indivisible.

Suggested Readings

1. Yong RJ, Mullins PM, Bhattacharyya N. Prevalence of chronic pain among adults in the United States. *Pain*. 2022;163(2):e328-e332. doi: 10.1097/j.pain.0000000000002291. PMID: 33990113.
2. De Vogli R. Status Syndrome: How Your Social Standing Directly Affects Your Health and Life Expectancy. *BMJ* 2004;329:408 doi:10.1136/bmj.329.7462.408
3. Borrell-Carrió F, Suchman AL, Epstein RM. The biopsychosocial model 25 years later: principles, practice, and scientific inquiry. *Ann Fam Med*. 2004;2(6):576-82. doi: 10.1370/afm.245. PMID: 15576544; PMCID: PMC1466742.
4. Varley E, Varma S. Introduction: medicine’s shadowside: revisiting clinical iatrogenesis. *Anthropol Med*. 2021;28(2):141-155. doi: 10.1080/13648470.2021.1937514. PMID: 34355978.
5. Centers for Disease Control and Prevention. <https://www.cdc.gov/onehealth/index.html>. Accessed June 15, 2023.

Frank Forencich earned his BA at Stanford University in human biology and neuroscience and has over thirty years of teaching experience in martial arts and health education. Frank holds black belt rankings in karate and aikido and has traveled to Africa on several occasions to study human origins and the ancestral environment. He’s presented at numerous venues, including the Ancestral Health Symposium, Google, the Dr. Robert D. Conn Heart Conference, and the Institute of Design at Stanford University. A former columnist for *Paleo Magazine*, Frank is the author of numerous books about health and the human predicament including *Beware False Tigers* and *The Enemy is Never Wrong*. He’s a Diplomate member at *The American Institute of Stress* and a frequent contributor to *Contentment Magazine*. Refer to www.exuberantanimal.com for more information.



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A photograph of a person's back, showing the spine and shoulder blades. The spine is highlighted with a glowing red and white effect, suggesting pain or inflammation. A hand is placed on the lower back, indicating discomfort. The text is overlaid on the upper and middle parts of the back.

**Chronic Pain
Does Not Occur
in Isolation:
*Treat All Aspects
with Alpha-Stim[®]***

By Josh Briley, PhD, BCMAS, FAIS

There is a connection between chronic pain and chronic stress, and there are a variety of ways in which chronic pain contributes to chronic stress, and vice versa. Methods for treating chronic pain often overlook the accompanying stress. The result is an incomplete treatment approach that does not provide complete relief for chronic pain patients. This article briefly explores the escalating cycle between chronic pain and chronic stress and how, if unaddressed, often results in anxiety and insomnia that further impact the patient's life. In addition, this article provides a review of an evidenced-based medical device that can be administered by a practitioner, as well as, by a patient at home that simultaneously relieves pain and treats anxiety and insomnia. Included is a presentation of scientific evidence, along with case based examples of patients treated by this author.

The Cycle of Chronic Pain and Chronic Stress

Patients struggling with chronic pain often experience stress about the cause of the pain, whether a result of an injury or a medical condition. Chronic pain is rarely consistent or predictable from day to day. As any chronic pain patient is aware, there are “good pain days” and “bad pain days.” There are also times when pain may escalate because of a seemingly innocuous movement, a change in the

weather, or for no identifiable reason. This vacillation in pain severity contributes to a sense of a lack of control over one's own body and ability to function. Thus, a chronic pain patient will often experience stress that a “bad pain day” will extend into weeks, months, or even years without significant pain relief. Even on a “good pain day,” when pain is lower than normal, the patient can experience stress related to how long the relief will last.

Pain also has a negative impact on the patient's daily life and the lives of loved ones. Range of motion, stamina, and functional strength are all reduced for someone struggling with pain, causing them to rely more on loved ones to accomplish tasks they could once readily do without assistance. Therefore, in addition to the loss of a sense of control, a patient with chronic pain often experiences a loss of a sense of independence. Being unable to care for themselves and seeing themselves as a burden to loved ones who care for them contributes to stress and frustration.

Chronic pain patients often limit their physical activity because of the pain, or to avoid further exacerbating their pain. As has been explored in previous Contentment issues, movement, especially light exercise, is an excellent means of not only improving physical mobility and health but is also an effective method of reducing chronic stress. Conversely, lack of physical activity and movement often contributes to increases in stress.

Oftentimes, chronic pain also interferes with the ability to achieve

In addition to the loss of a sense of control, a patient with chronic pain often experiences a loss of a sense of independence.



quality, restful sleep. Sleep is essential for both physical and mental health, and over time, the cumulative effects of poor sleep related to chronic pain further compounds the chronic mental and physical stress the patient with pain frequently experiences. Inadequate quality of sleep increases the emotional stress and physical pain the patient experiences.

Neurologically, pain, anxiety, and insomnia have an impact on the default mode network (DMN). The DMN is a network of nerve pathways in the brain that involves many areas of the brain and is most active when we are relaxed and not focused externally. The combination of chronic pain, sleep deprivation, and stress contributes to disruptions in the electrical activity of the DMN. As a result, pain is perceived as being more profound than can be explained by the physical or medical causes of the pain. This escalation

in the perceived amount of pain worsens the sleep disturbance and stress described above, which in turn can escalate the perception of pain. The relationship between these conditions creates a cycle in which the pain exacerbates existing distress, which in turn exacerbates the pain. This ever-increasing cycle contributes to the comorbid conditions that often accompany chronic pain, namely anxiety and insomnia. Thus, to obtain relief from chronic pain as well as relief from the comorbid anxiety and insomnia, it is important that pain treatments focus not just on the physical pain, but also address the neurological effects of this pain.

Most traditional pain treatments, such as medications, do not address the psychological impact of the pain. Medications may attempt to dull the pain sensation or activate nerve cell receptors

that block the sensation of pain. However, to improve sleep and reduce the anxiety that is frequently comorbid with chronic pain, additional medications for sleep and mood or anxiety are often prescribed. The result is a cocktail of medications, all with their own adverse effects, which may also have interaction effects with each other. Additionally, some or all these medications can be addictive, or a patient can develop a tolerance to the medication, requiring more to attempt to achieve the same level of relief.

In recent years, the use of neurostimulators to relieve pain has grown in both popularity and effectiveness. These neurostimulators are medical devices that are designed to provide pain relief. Some are designed solely for use in a provider's office, while others can be used by the patient at home. Depending on the specific device and technology utilized,

the safety and effectiveness of these devices vary greatly. However, as with medication, they all share the limitation of solely treating the patient's pain and do not directly address the comorbid anxiety and insomnia.

A Brief Explanation of the Alpha-Stim®

Fortunately, there is a safe and effective treatment option that not only relieves pain in the body, at the source, but also addresses the psychological aspects of pain by treating the central nervous system and normalizing the electrical activity in the brain (Qiao et al., 2015) especially within the default mode network (Fuesner et al., 2012; Taylor et al., 2013). This normalization is obtained using low amplitude electrical current and a patented waveform. Thus, with a single, easy to use device, a patient can receive a

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complete treatment for their pain, anxiety, and insomnia.

This treatment option is the Alpha-Stim, a handheld medical device FDA cleared for the treatment of anxiety and insomnia and the relief of pain. Alpha-Stim has been shown in over 100 research studies and more than 40 years of clinical experience to be effective and safe. Alpha-Stim is designed to be used by the patient at home but does require an order by a licensed healthcare provider in the United States.

The sensation of pain transmits through your body along billions of nerve cells designed to transmit pain messages through electrochemical signals. Alpha-Stim utilizes microcurrent electrical therapy (MET) to modulate the signals within nerve pathways to provide significant pain relief and pain management without medication. Instructions for how to complete a pain treatment protocol can be found at

<https://alpha-stim.com/how-to-use-m/>. Pain relief, even from chronic pain, can generally be obtained in one session. Additionally, the results are cumulative, so the more frequently Alpha-Stim is used, the better the pain relief is and the longer it lasts.

In order to treat the anxiety and insomnia that is comorbid with pain, Alpha-Stim utilizes cranial electrotherapy stimulation (CES) via earclips attached to the earlobes. The result is a comprehensive approach that relieves pain as well as treating the comorbid anxiety and insomnia safely and effectively. See <https://alpha-stim.com/risk/> for information on mild and self-limiting side effects.

Scientific Evidence for Alpha-Stim®

As mentioned above, there are over 100 clinical studies that consistently demonstrate Alpha-Stim's effectiveness

and safety in relieving pain and treating anxiety and insomnia. Alpha-Stim reduced pain as much as 85% in as little as eight days in patients with chronic, refractory pain.¹ Veterans not only experienced significant pain relief with Alpha-Stim, but also had improvements in the level to which pain interfered with daily functioning and the level of distress veterans experienced due to the pain, and comorbid anxiety.² Alpha-Stim was also beneficial in relieving pain as well as treating anxiety and insomnia by more than 50% in approximately half of patients with advanced stages of cancer.³ Finally, in patients diagnosed with fibromyalgia, Alpha-Stim significantly reduced pain and insomnia, while improving feelings of well-being and quality of life.⁴ These studies consistently demonstrate Alpha-Stim's success in not only quickly and safely relieving pain, but also treating anxiety and insomnia.

Alpha-Stim Benefits Witnessed by this Author

As impressive as the scientific evidence for Alpha-Stim's safety and effectiveness is, the clinical results are even more so. I have treated hundreds of individuals suffering with chronic pain using Alpha-Stim, both when I was clinical psychologist with the Veterans Health Administration and in my current role as Clinical Education Director for Electromedical Products International, Inc. The results I have witnessed are nothing short of incredible.

Case Study #1: My first experience in seeing the relief from chronic pain was from a veteran in his mid-40s with a history of five back surgeries. He came to the outpatient clinic where I worked as a psychologist on a "bad pain day." He was having difficulty walking, was unable to

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90-DAY RESULTS

- 65% reduction in anxiety
- 72% reduction in frustration and overwhelm
- 67% reduction in stress
- 70% reduction in despair and hopelessness

Despite well-established connection between chronic pain and chronic stress, that can increase risk factors for anxiety and insomnia, most treatment approaches focus solely on the pain.



stand up straight, and moved very gingerly. After he used Alpha-Stim, he was able to stand up from his chair and announced his back no longer hurt. In addition, he reported feeling very relaxed and calm, rather than anxious and “keyed up.” A week later, when he returned to the clinic, he reported his pain relief had lasted for approximately six hours, and returned when he was riding a horse that afternoon.

Case Study #2: I also treated a Vietnam veteran in his 70s, who walked to his car after his treatment, only to turn

around and walk back to my office, a total distance of approximately a quarter mile, to report he was pain free for the first time in decades. With consistent treatments, this veteran reported a decrease in anxiety and improvement in both quality and quantity of sleep. Another Vietnam Veteran, during his initial Alpha-Stim treatment while participating in a therapy group, began raising his arm and lowering it repeatedly. When I asked what he was doing, he held his arm up so his elbow was slightly lower than his shoulder, announced

he had not been able to move his arm more than that in over a decade, then raised his arm over his head so his arm was straight up. I worked with many veterans who, after using Alpha-Stim consistently to relieve their pain and treat their anxiety and insomnia, were able to work with the physicians and reduce or discontinue their pain, mood, and sleep medications.

Case Study #3: In North Carolina, I treated a man with bilateral knee pain who had slightly impaired mobility as a result. He was able to walk independently, but his gait was shortened, and his pace was slowed. Following a single treatment with the Smart Probes and ear clips, he reported no pain in his knees and, to prove the point, quickly jogged up and down a set of stairs. The next day, he reported sleeping better than he had in months, despite the fact he was sleeping in a hotel room, a situation that is not historically conducive to quality sleep for him. Recently, in Tennessee, a colleague treated a woman with chronic and severe pain in her neck and shoulders. At the time of the treatment, her pain was more severe on the right side of her neck, so he focused slightly more on the right side than the left. The next morning, she returned to us, stating the right side of her neck was still pain free, and she had slept very well, but the left side of her neck was now so painful she was unable to turn her

head. My colleague treated her neck and shoulders again, at which point her pain was completely relieved and she had full mobility in her neck.

Patients who suffer with chronic pain are acutely aware that the pain is only part of their distress. The neurological and emotional difficulties that co-occur with their pain can be just as inhibiting in their daily lives. Yet, despite this well-established connection between chronic pain and chronic stress, that can increase risk factors for anxiety and insomnia, most treatment approaches focus solely on the pain. This incomplete treatment approach is often only partially successful in helping improve feelings of well-being and quality of life. Patients seeking a more comprehensive treatment approach for their chronic pain should consider asking their healthcare providers about Alpha-Stim.

References

1. Kulkarni, A.D. (2001). The use of microcurrent electrical therapy and cranial electrotherapy stimulation in pain control. *Clinical Practice of Alternative Medicine*, 22:99-102.
2. Morrow, D.J., Fischer, E.P., Walder, A.M., & Jubran, N.I. (2019). Nonopioid alternatives to addressing pain intensity: A retrospective look at two noninvasive pain treatment devices. *Federal Practitioner*, 364, 181-187.
3. Yennurajalingam, S., Kang, D.-H., Hwu, W.-J., Padhye, N.S., Masino, C., Dibaj, S.S., Liu, D.D., Williams, J.L., Lu, Z., & Bruera, E. (2018). Cranial electrotherapy stimulation for the management of depression, anxiety, sleep disturbance, and pain in patients with advanced cancer: A preliminary study. *Journal of Pain and Symptom Management*, 55(2), 198-206.
4. Lichtbroun, A.S., Raicer, M.C., & Smith, R.B. (2001). The treatment of fibromyalgia with cranial electrotherapy stimulation. *Journal of Clinical Rheumatology*, 7(2), 72-78.

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