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Riordan Clinic is a world-renowned, academic medical center that has led the world in integrative oncology and complex chronic illness care since 1975. The Riordan Clinic was established as a 501 (c)(3) non-profit organization with missions in research, provider education, and patient education. The Health Hunter Newsletter has been published since 1986 as an educational resource to providers and patients.

Metabolic Health has Strong Links to Mental Health Issues



AUTHOR

Ron Hunninghake, MD

Mental health is a significant challenge for many Americans. According to the National Institute of Mental Health, as many as 20 percent of adults in the United States experience a mental illness. Mental disorders can include anxiety and depression or more severe conditions such as schizophrenia and bipolar disorder.

Mental and Metabolic Health

Studies have consistently shown that patients with mental health disorders have a higher risk of metabolic syndrome than the general population. As we have previously described in this newsletter, metabolic syndrome is defined by having three or more of the following conditions:

- Obesity or excess abdominal fat: Usually a waist circumference of 40 inches for men and 35 inches for women
- Elevated blood pressure: Equal to or higher than 130/85 mmHg
- High blood sugar: Fasting blood glucose of 100 mg/dL
- Dyslipidemia: Abnormal lipid levels in the blood, especially high triglycerides (150 mg/dL or higher) and low levels of HDL cholesterol (lower than 40 mg/dL in men and 50 mg/dL in women).
- Insulin resistance: A key factor in metabolic syndrome

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The journal JAMA Psychiatry found metabolic syndrome in nearly 33% of patients with schizophrenia after analyzing 61 studies in an article published in 2017. Metabolic syndrome is also associated with bipolar disorder. A review published in 2019 in the Journal of Affective Disorders found that nearly 38% of bipolar patients also had metabolic syndrome.

These articles represent two specific conditions, but there is reason to be concerned about the overall relationship between mental and metabolic health. Metabolic syndrome can add to the overall burden of mental illness and increase the risk of heart disease and other health complications. Managing metabolic risk in psychiatric patients can include lifestyle changes, regular screenings, and medical management when necessary.



Metabolic Syndrome and Recovery

Unmanaged metabolic syndrome can clearly impact a mental health patient's ability to recover. First, the medications often used to treat mental health conditions can contribute to metabolic issues, such as weight gain, abnormal blood lipid levels, and insulin resistance.

It can also put any patient at increased risk of heart attacks and strokes, which psychiatric patients may be more vulnerable to because of their underlying mental health condition. Additionally, metabolic syndrome symptoms, especially insulin resistance and inflammation, have been linked to cognitive impairments. This can affect a patient's ability to engage in therapy and treatment plans to effectively manage their symptoms and daily life.

Metabolic syndrome can contribute to a lower quality of life and have a psychological impact in itself. The physical discomfort, chronic health conditions, and lifestyle changes and restrictions associated with metabolic problems can impact day-to-day functions, social interactions, and overall well-being, which can in turn worsen mental health problems.

At the Riordan Clinic, we work to find the root causes of all our co-learners' conditions, including addressing the underlying cause of metabolic syndrome as it relates to mental health. Surprisingly, the modern medical approach to treating mental health issues typically fails to factor in metabolic dysfunction as a major contributing root cause of chronic mental illness. Psychological and/or emotional factors are all too often the tip of the "mental illness iceberg."

Addressing metabolic syndrome in psychiatric patients requires an integrative approach with both mental and physical aspects.

Effective treatments can include a combination of medication management along with lifestyle changes such as a healthy diet and regular exercise, monitoring the metabolic parameters, and collaboration with mental health and primary care providers.

A metabolic approach to treating mental health issues does not eliminate the need for medication, but it can broaden the treatment to identify deficiencies and imbalances of key nutrients, including vitamins, minerals, and amino acids.

These imbalances can disrupt the proper functioning of the hormones and neurotransmitters, such as adrenaline, dopamine, and serotonin, that are typically associated with mental health disorders, including depression, anxiety, and ADHD.

Nutrient-depleted and toxin-altered biochemical pathways in both the brain and in the gut are now scientifically demonstrated as underlying causes of disrupted brain functioning.

Managing metabolic syndrome more effectively can give patients better outcomes and a better chance at achieving well-being in their psychiatric recovery journey.

A Case Study

In his book "Brain Energy" Dr. Christopher Palmer, MD, a Harvard University psychiatrist, wrote about Tom, a 33-year-old man with schizoaffective disorder — a cross between schizophrenia and bipolar disorder. He had suffered from hallucinations, delusions, and mental anguish daily for 13 years.

None of the 17 medications he had tried worked. Some sedated him enough to reduce his anxiety and agitation, but they didn't stop his hallucinations or delusions and had been a factor

leading him to gain more than 100 pounds. This contributed to low self-esteem, and he had become a virtual hermit, with therapy sessions with Dr. Palmer becoming some of his only excursions outside the home.

Dr. Palmer agreed to help him lose weight. In the book, he writes, “I was the doctor he saw most often, and he wasn’t in the market for a referral to a specialist he’d never met. More to the point, it was highly unusual for him to take action to improve his health. Maybe losing weight could help him gain a sense of control over his life.”

They experimented with several approaches and settled on a ketogenic diet low in carbohydrates, moderate in protein, and high in fat. Dr. Palmer writes that within weeks Tom had not only lost weight, but he was less depressed and less sedated. After two months, Tom reported having fewer hallucinations and was rethinking his many paranoid conspiracy theories.

Dr. Palmer concluded by saying that Tom eventually lost 150 pounds, moved out of his father’s house, completed a certificate program, and even performed improv in front of a live audience.

Mitochondrial Dysfunction

As I mentioned in the April issue of Health Hunters, mitochondrial function also profoundly affects your mental health. The brain has, by far, one of the highest concentrations of mitochondria, which are considered the “powerhouse” of our cells. Mitochondria are very tiny organelles within cells that generate the ATP energy that powers our cellular metabolism and signaling pathways. Mitochondrial functioning is closely related to mental health.

One way that mitochondrial dysfunction can affect mental health is through the generation of reactive oxygen species (ROS), which are harmful byproducts of cellular metabolism. If not properly neutralized by the body’s antioxidant systems, ROS can damage cellular structures, including those in the brain, and contribute to oxidative stress, inflammation, and neurodegeneration. These results are significant factors in a range of mental health conditions, including depression, anxiety, bipolar disorder, and schizophrenia. It can also impair cognitive function and contribute to neurological conditions such as Alzheimer’s and Parkinson’s diseases.

Finally, mitochondrial dysfunction can also impair cellular signaling pathways – including those related to serotonin, dopamine, and glutamate – which play crucial roles in regulating mood, emotion, and cognition.

Restore Mitochondrial Functioning

Many of the recommendations for restoring mitochondrial function will also improve metabolic issues.

Exercise has been shown to stimulate the growth of new mitochondria and improve cellular energy production. A diet rich in nutrients such as vitamins, antioxidants, and minerals can help support mitochondrial health. A Mediterranean-style diet is a good place to start, but it is always best to talk with your healthcare provider.

Avoid environmental toxins when you can, including plastic containers, and buying organic whenever possible.

If you are taking supplements, I always advise you to test, don’t guess. The most important supplement is the one you are most deficient in. However, there are supplements that can possibly improve your mitochondrial health, including Coenzyme Q10, Nicotinamide adenine dinucleotide, and alpha-lipoic acid.

Make sleep and stress reduction a priority! Sleep is crucial for your mental and physical health. Chronic stress can cause inflammation and a variety of health issues that can specifically affect the metabolic system, which impacts the mitochondria – and potentially mental health. Yoga, meditation, and deep breathing exercises can help reduce stress and support mitochondrial health.

Riordan Heritage

Orthomolecular psychiatry is a part of the Riordan Clinic’s heritage and founding. It is a branch of psychiatry that focuses on the use of nutrients, such as vitamins and minerals, to maintain and restore mental health. It was popularized in the 1960s by Dr. Linus Pauling, a two-time Nobel laureate.

Dr. Hugh Riordan, co-founder of the Riordan Clinic and my extraordinary mentor, pioneered 15 International Conferences on Human Functioning, thus laying a solid and scientifically diverse foundation for a truly metabolic approach to mental illness.

In Conclusion

Adverse factors contribute to metabolic and mitochondrial functioning such as poor diet, chronic stress, a sedentary lifestyle, lack of sleep, and chronic exposure to toxins.

If you are plagued with mental illness and haven’t changed your lifestyle for the better, medications alone may not solve your psychiatric problems. You need to live better in order to feel better.



Illustration of mitochondria

Impacts of Emotional Trauma on the Body



AUTHOR

**Dr. Kirsten West,
ND, LAc, FABNO**

Emotional trauma can significantly affect body – beyond what many consider when they think of mental health issues.

Mental distress and deep-set emotional patterns are an adaptation to trauma. Trauma can come in the form of “Big T,” such as abuse or war, or “little t,” such as poor attachment to a caregiver or not feeling seen, heard, or connected. We require safety and connections to move forward in life. When that does not exist, especially in the years we learn attachment, we experience trauma and adapt. Those adaptations stay with us for years and affect our relationships, mental, and physical health. All forms of trauma can have equally devastating impacts on our health if not effectively managed.

Whether or not a situation is recognized as trauma at the time, people find ways to adapt. The adaptations that may have served us well as a child or young adult can be a disservice as we move forward in life. When we change the view of mental illness to one of adaptation, we take away the shame of maladapted physiological responses. Trauma is more than mental; it is recorded in the body’s physiology. Once we adapt to a traumatic experience, the body holds those memories, which become well-traveled pathways and subsequent responses later in life.

Unfortunately, those responses, more often than not, no longer serve us and may hinder our growth, development, and health. A chronic stress response can equate to chronic disease. Simply put, the body feels distress and, therefore, unwell.

Becoming acutely aware of our inner world and our past is paramount. If depression, anxiety, and a generalized sense of distress or sensitivity to otherwise mild situations and life events are prevalent, it is important to look past momentary thought patterns and into the body to determine why. Traumas, either big or small, must be eradicated at the physiological level.

Health Impacts of Emotional Trauma

A chronic stress response will lead to chronic health issues. This physiological response can cause a rise in cortisol and adrenaline – our stress hormones. The hormones, if secreted acutely, are helpful. They can help us flee a situation and act accordingly. However, its long-term presence does a disservice and can lead to chronic issues, such as increased blood sugar and depressed immunity. If we do not learn to change our response to stress and respond favorably, the body senses that it is unwell. This leads to poor mental and physiological health, which can be seen with conditions such as depression, anxiety, heart disease, cancer, and autoimmunity.

Another major trauma adaptation that can be overlooked is addiction. Addiction is often related to the misuse of drugs, alcohol, or cigarettes, but it can go beyond that. Our relationship with food, exercise, and work may also mask deep-set traumas. Pay attention to these. When our relationship to any of these begins to counteract our physical or mental health, there is often a traumatic experience at its core.

Common Trauma and Correlating Conditions



In my practice, I have seen several conditions that are aligned with a specific trauma history. For example, autoimmunity is often associated with a history of abuse. The body learns to protect itself from the abuse, and in doing so, overdoes self-surveillance and begins attacking itself. We now know that autoimmune blood markers are elevated

in those with a history of abuse, as opposed to those without that history, even before developing an autoimmune disease.

I personally think a large part of malignancy is attributable to a history of trauma. I have seen gynecological cancers in those with a history of sexual abuse and digestive cancers in those who never fully digested and enjoyed life. Throat cancer or cancer of the head and neck may come with a history of feeling unheard. The patterns are prevalent, and while correlation does not equal causation, getting to the root of the trauma is important. It is also important to remember that any diagnosis of cancer or a life-threatening illness is a trauma itself and is akin to PTSD. Trauma can cause more trauma.

Addressing Trauma

While many people focus on talk therapy as a way to cope with or discover past trauma, it does not always work when trauma has resulted in maladapted physiological or emotional problems, which must be addressed at a cellular level. It is easy to focus on a physical malady rather than pulling back the onion to discover the root causes.

I have seen some of the best changes in my patients who utilize EMDR therapy, hypnosis, yoga, or other mind and body-based movements. EMDR uses rapid eye movements (those that are active in sleep) to help change the way we approach events.

EMDR is rooted in what sleep does for us, helping to re-analyze our day, which is imperative for memory and learning. If we can hone the brain waves active in the REM stage of sleep, we could make a lasting change in trauma response. This could re-program the brain and the subsequent physiological response.

Hypnosis also serves to change brain activity, and in so doing, changes adaptations to certain past events. When done with a skilled therapist, yoga and additional mind and body movement can also help reframe our adaptations and trauma response from a physiological level.

In Conclusion

Emotional trauma comes in many forms and sizes, and it can be difficult to recognize. We must become aware of our inner terrain, our inner voice, and our inner child. This is where our truth lies and our capacity to heal is awakened. This begins with recognition and letting go of adaptations that no longer serve us. Trauma can be our greatest awaking if we learn how to see it.

Biohormones and Cognition Among Doctor's Passions



AUTHOR

Melody Spurney

Growing up on a small dairy farm set the stage for what would become a career for Dr. Arden Andersen, PhD, DO, MSPH. It was there that the newly-named Chief Medical Officer for the Riordan Clinic learned about the intersection of nature and integrative medicine.

Nature and Nurture

Dr. Andersen was raised watching his father treat health problems with cows by using natural products instead of antibiotics. It was the root of where Dr. Andersen's two passions, agriculture and health, intertwined.

"I realized early on that traditional farming practices didn't work, and I realized that I could take a more natural approach to medicine, too," he said.

Dr. Andersen followed his passion for agriculture first, earning a Bachelor of Science in Agriculture and Agriculture Education from the University of Arizona and a PhD in Agricultural Biophysics from Clayton University. He began his career by sharing his love for agriculture as a teacher and working as an agricultural consultant.

In the mid-1980s, he was introduced to the Riordan Clinic while spending the summer doing research about cancer with one of his mentors, one of two individuals who encouraged him to go to medical school.

Dr. Andersen eventually did go to medical school, earning his Doctor of Osteopathic Medicine from Western University of Health Sciences in 1996. He continued his education in healthcare, earning a Master of Science in Public Health from the University of South Florida in 2011.

"I knew I wanted to take an osteopathic approach. I wanted to seek answers to health issues, not just cover them up," he said.

Dr. Andersen spent one of his residency terms at the Born Clinic in Grand Rapids, Michigan and was invited to return for his first healthcare position.

A Call to Serve

Dr. Andersen served 29 years in the United States Air Force Reserves, retiring in 2020 with the rank of Colonel. His medical practice was interrupted in 2001 when he was called for active duty following the terrorist attacks, and he served on active duty as a flight surgeon and physician during Operation Enduring Freedom (2001-2003). He was called for active duty again in 2009 during Operation Iraqi Freedom.

Following his return to Michigan in 2003, he moved to Goshen, Indiana, in 2005 to continue his practice as a family physician and medical director at Crossroads Healing Arts, a subsidiary of The Born Clinic. He left in 2009, when he began work on his Master's. He returned to Goshen after its completion.



Dr. Arden Andersen (right) is pictured with his wife, Lisa, and Sen. Roger Marshall during a recent trip to Washington, D.C., to discuss bioidentical hormones.

Care and Passions

Neurological and cognitive issues are among the areas in which Dr. Andersen specializes, in part because of his own background with traumatic brain injury. Since high school, due to athletics and working on the farm, he personally suffered five concussions, two with loss of consciousness.

His service in the Air Force also highlighted the need for treatment of brain damage and cognitive issues without relying only on heavily medicating individuals.

"This is a big issue for veterans, including myself. It is both intriguing and a great need that's not really being addressed very aggressively, and certainly not holistically," he said.

Another area of interest is regenerative therapies, particularly prolotherapy and chelation therapies. He was introduced to the techniques during rotations in medical school. As a result, he took several courses to learn how to offer both therapies. He also works with patients on anti-aging and longevity support.

Part of his realization of the need for regenerative therapies comes from his work with farmers in heavily Mennonite and Amish communities, including Goshen. They would experience pain as a result of their agricultural work, which could be relieved or significantly reduced with the therapies.

Dr. Andersen also said he realized the direct link between health issues and environmental toxins while working with the farmers — and patients in general.

“A lot of chemicals used in agriculture are endocrine disruptors, and that’s a very easy connection for me to make and discuss with patients,” he said.

A More Recent Area of Care

Frustrated that his mother was not thriving with traditional hormone therapies, Dr. Andersen was curious about bioidentical hormone therapy and attended a lecture by Lisa Everett at a medical conference. They met in person following the lecture.

That chance encounter led to their marriage 10 years ago. Lisa, B.SC Pharm, FACA, CCN, owns O’Brien Pharmacy in Mission, Kansas, which was co-founded by her father, Henry Everett, in 1962. She specializes in bioidentical hormones and nutrition, and Dr. Andersen and Lisa work together to treat patients who can benefit from their joint experience.

Dr. Andersen and Lisa live in Olathe and between them have six children. They enjoy ballroom dancing, golf, and skiing in their free time.

Meeting Co-Learners Where They Are

Dr. Andersen said the most important thing about doctor and patient relationships is understanding why the patient is choosing their care path in the first place.

“They often come because they have heard or seen something they are not getting elsewhere. It is important to cultivate the reason why they are there,” he said.

Education and listening are also key focuses for building co-learner relationships, something valuable to both Dr. Andersen and the person he is treating.

“All of a sudden, there’s an ‘ah-ha’ moment, and the picture starts to form,” he said, adding that he believes in an approach to care that is sound, scientific, and functionally based.

Choosing Riordan

Dr. Andersen said he is looking forward to his role as Chief Medical Officer. He is interested in working more with cancer patients and practicing in an integrative healthcare setting.

“Riordan Clinic has been in business for a long time, and I felt it was kind of a step up. I’m very impressed by the professionalism of the clinic. What I see is that you don’t have to compromise quality in order to get things done. I like an integrative group of people because it always brings various ideas together,” he said.



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Strawberry Spinach Salad with Balsamic Poppyseed Dressing



INGREDIENTS

For the salad:

10 ounces fresh baby spinach
1 quart strawberries, quartered
1/2 red onion, sliced thin
1/4 cup toasted almond slices
4 ounces feta cheese, crumbled

For the dressing:

1/2 cup extra virgin olive oil
1/4 cup balsamic vinegar
1/2 cup sugar or other preferred sweetener
1 Tbsp poppyseeds
1 Tbsp minced red onion
Serves: 6; Prep: 15 minutes

DIRECTIONS

- To make salad dressing:**
Combine all of the dressing ingredients in a mason jar. Shake well until sweetener is dissolved and dressing is combined.
- To make salad:** Combine all ingredients for the salad in a large bowl. Very lightly dress the salad right before serving, reserving the rest of the dressing on the side to add more as desired.

VARIATIONS

- Replace feta with goat cheese
- Replace almonds with candied walnuts
- Swap the red onions with avocado
- Add chicken: Brush chicken breasts with olive oil and sprinkle with salt and pepper and other herbs as desired. Bake for 30 minutes at 375 degrees. Slice and add to the salad.

Contact the Editor

Please send any comments or suggestions to
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Thank you for reading.



Melody
Spurney
Editor

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The Latest Information and Top Experts
in Functional and Integrative Medicine

LATEST EPISODES



EPISODE 59

BETTER BONE HEALTH

Susan Brown, PhD, CNS

In this episode of the Real Health Podcast, Chief Medical Officer Dr. Ron Hunninghake, MD, and Susan Brown, PhD, CNS, and director of The Center for Better Bones, discuss how an alkaline and pH-balanced diet, along with exercise and stress management, can help preserve bone health.

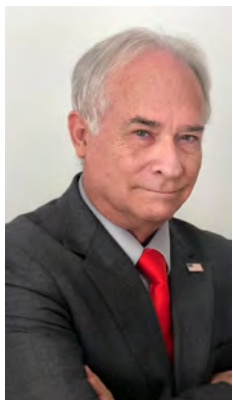


EPISODE 58

INTRODUCTION TO DR. ANDERSEN

Dr. Arden Andersen, PhD, DO, MSPH

In this episode of the Real Health Podcast, Dr. Ron Hunninghake, MD, introduces new Chief Medical Officer Dr. Arden Andersen. Dr. Andersen discusses his background in agriculture and how the environment is linked to human health and how it drew him to practice medicine. He will practice alongside Dr. Ron at Riordan Clinic.



EPISODE 57

ANTIOXIDANT POWER OF METHYLENE BLUE

Dr. Thomas Levy, MD, JD

In this episode of the Real Health Podcast, Chief Medical Officer Dr. Ron Hunninghake, MD, talks to Dr. Thomas Levy, MD, JD, and member of Riordan Clinic Board of Directors, about methylene blue. Originally created as a dye, methylene blue has been found to have powerful antioxidant properties beneficial in medical uses.



EPISODE 56

ANTI-CANCER FOOD CHOICES

Dr. Kirsten West, ND, LAc, FABNO

In this episode of the Real Health Podcast, Chief Medical Officer Dr. Ron Hunninghake, MD, and Dr. Kirsten West, ND, LAc, FABNO, discuss how nutrition and food choices can play a role in preventing cancer or help in healing following a diagnosis.

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