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Riordan Clinic is a not-for-profit 501(c)(3), nutrition-based health facility with locations in Wichita, Overland Park, and Hays, KS. The clinic was co-founded by Olive Garvey and Hugh D. Riordan. We have integrated lifestyle and nutrition to help you find the underlying causes of your illness. Since our inception in 1975, the mission has been clear and unwavering to "...stimulate an epidemic of health."

Preventing Pain as We Age

Does it often feel like every passing birthday brings new aches and pains? These pains not only affect how you feel physically, but can also take a toll on your mental health. Pain might limit your ability to do the things you love, or enjoy your day-to-day, but you don't have to accept pain as your burden to bear in your later years. Instead, view it as a signal that your body wants and needs attention. There are steps you can take to prevent or even reverse pain as you age that don't involve surgery or a lifetime of pain medication.



AUTHOR

Dustin Moffitt, ND

What is it about getting older that creates more pain?

It may feel like pain just shows up out of the blue one day, but chances are the potential for pain has been brewing for many years. When there are no symptoms, it can be very hard to determine what is going on behind the scenes. Old injuries that weren't given the time or proper care to heal can create pain in other areas due to years of compensation patterns. Inflammation in the joints (or all over), chronic infections, or even chemical toxicity can create pain in the body. Hormone changes such as a decrease in testosterone in men, and estrogen in women may also contribute to pain later in life. Thyroid disorders have been commonly linked to pain as well. If you have a combination of any of these factors then your likelihood of pain is even higher.



THERE ARE STEPS YOU CAN TAKE TO PREVENT OR EVEN REVERSE PAIN AS YOU AGE THAT DON'T INVOLVE SURGERY OR A LIFETIME OF PAIN MEDICATION.

The good news is that there are things you can do now to prevent or reverse pain as you age. In this article, I will discuss many ways to help you get rid of pain and back to living vibrantly for many years to come.

Continued on page 2

Lifestyle and Nutrition Necessities

EXERCISE/STRENGTH TRAINING

At the top of my prescription list is always incorporating some form of movement or exercise, coupled with strength training. When we aren't as mobile, we are more prone to develop pain.

Muscle and movement help to reduce pain by keeping our myofascial system in a highly moveable state which lessens the number of adhesions, or painful spots between muscle layers.

If you are over the age of 30, I recommend that you lift heavier weights to help maintain muscle mass. However, if you are new to strength training, start with lighter weights and focus on form until you feel comfortable moving heavier weights.



NUTRITION AND DIET FOR PAIN PREVENTION

Advanced Glycation End Products (AGEs) are compounds that are shown to rapidly increase our aging rate and inflammation. AGEs are naturally occurring, but are increased when foods are heat processed, especially at higher temperatures (think fried, grilled, or charred). Avoiding animal products that have been high-heat exposed can reduce the number of AGEs in your diet.

A diet rich in protein, healthy fats, and antioxidants can help reduce oxidative stress. Brightly colored fruits and vegetables like blueberries, strawberries, kale, red cabbage, beets, spinach, pecans, and even dark chocolate (72% cacao and above) are great sources of antioxidants. Coconut oil, olive oil, avocados, fatty fish, nuts, and seeds (raw) are good sources of healthy fats.

GOOD QUALITY SLEEP

The importance of sleep cannot be overemphasized. Sleep is the time that the body's important restoration functions get to work. When sleep is short or interrupted, our system is more easily taxed, we respond poorly to stress, and it can cause cravings for not-so-healthy foods.

Ideally, we are waking and sleeping with the natural rhythms of sunrise and sunset, but this isn't always possible. Aim to be in bed and asleep before 10 pm each night and if your schedule permits, allow yourself to wake up naturally without an alarm clock. For most people, 7-8 hours of sleep provides adequate rest.



It's a good idea for every person to monitor and limit their sugar and refined carbohydrate intake. This may require reading food labels as sugar hides in many packaged products.

If you have any food sensitivities then it is advised that you avoid those foods. If you suspect that you may have food sensitivities, then following an elimination diet can help you determine if your suspicions are correct.

Supplements that Help with Aging/Pain

I wish that I could say that there was a one-size-fits-all supplement protocol for pain, but every person is different and therefore requires their own personalized supplemental approach. Here at Riordan Clinic we use lab testing to determine exactly what each patient needs. We measure things like micronutrients and inflammatory markers to detect deficiencies and abnormalities that need to be addressed.



As I mentioned previously, there are numerous reasons that a person might experience pain as they age, and supplements are tailored to their individual case. But, I do want to highlight some of the things I've used in practice.

NITRIC OXIDE

Nitric oxide (NO) plays a large role in how our body heals, operates, and stays young. A recent study indicated that maintaining proper NO levels noticeably reduced osteoarthritis related symptoms and with some cases being reversed entirely. If you are curious about



HYDRATION

Sometimes something as simple as hydration can positively affect a person's pain levels. This is especially true if headaches and muscle stiffness are the main complaint. Your body needs water, and most people aren't drinking enough. It is important to get at least half your body weight in ounces each day. So for a 150-pound person, 75 ounces of water per

day is the minimum. You may require even more depending on your activity levels and caffeine intake.

your own NO levels, HumanN created Nitric Oxide Indicator Strips to help you track your progress. If you find that your levels are low, you can find NEO 40 Nitric Oxide tabs in our nutrient store.

DON'T GIVE UP, AND DON'T ACCEPT THAT PAIN HAS TO BE PART OF YOUR AGING PROCESS.

Supplements that Support Hormones

DHEA

DHEA is a hormone that is naturally produced in the body and is a precursor to other hormones like estrogen and testosterone. Our DHEA levels naturally decline as we age. Supplementing with DHEA may help with hormone imbalances in aging adults.

ADRENAL REVIVE

Healthy adrenals are very important in our later years as a lot of hormone production takes place in these small glands. Adrenal Revive contains several constituents like Ashwaghandha, Skullcap, Eleuthero, and Rhodiola that support the adrenals and help the body adapt to stress.

PREGNENOLONE

In the body, pregnenolone is used to make steroid hormones. Some research has shown that supplementing with Pregnenolone may help with cognitive function, stress reduction and arthritis. It is important to work with your practitioner to determine dosage and use of pregnenolone.

VITAMIN C

You know that we are big proponents of vitamin C around here. Among its many uses, it is very important for supporting adrenal health and function.

Supplements to Support Joint Health

METHYLSULFONYLMETHANE (MSM)

MSM is a dietary supplement that may help with inflammation and reduction in joint and muscle pain.

GLUCOSAMINE AND CHONDROITIN

Glucosamine and Chondroitin are structural components of cartilage. Supplementation may help with pain associated with osteoarthritis, a type of arthritis that damages cartilage in the joints.

HYALURONIC ACID

Hyaluronic acid is a substance that is naturally produced by the body that also declines with age. Its main function is to retain water which keeps tissues of the body well lubricated for easier function and movement. As you can imagine, this is very important for our joints.

Supplements that Help Reduce Pain

BROMELAIN

Bromelain is an extract from the pineapple plant that may have anti-inflammatory and analgesic effects that are beneficial for those with osteoarthritis.

QUERCETIN

Quercetin is being studied for a number of benefits, including pain reduction. It is a powerful antioxidant and anti-inflammatory agent.

SERRAPEPTASE

Serrapeptase is a proteolytic enzyme, meaning that it breaks down proteins. It helps break down scar tissue that can oftentimes be the cause of pain.

BOSWELLIA/TURMERIC BLEND

Boswellia and turmeric act as strong anti-inflammatories. When paired with enzymes such as serrapeptase they work together to decrease cytokines (inflammation signals) and fibrin development which can lead to poorly healed wounds or painful scars if formed in abundance.



Correct Nutrient Deficiencies

Any nutrient that you are deficient in can essentially lead to pain as you age. Testing is the only true way to determine which nutrients your body needs the most. Correcting deficiencies, along with some of the aforementioned supplements, may be just the right combination to get, and keep, you out of pain. Start with lifestyle and nutritional changes, incorporate supplements with the help of your practitioner, and if you are still experiencing pain, there are other natural interventions available to help.

Other Interventions for Pain

PROLOZONE, DEXTROSE PROLO, AND PRP

For more info please see <https://riordanclinic.org/what-we-do/regenerative-injection-therapy/>

Prolozone

Prolozone involves an injection with the use of ozone. Ozone is created when an energetic force, such as electricity (lightning) or ultraviolet light (solar exposure) is imposed upon a molecule of O₂. The two oxygen atoms are temporarily split apart into single oxygen atoms. Then, in a matter of nanoseconds, these highly unstable oxygen atoms will pair up again and reform back into O₂ molecules. However, a small percentage of them will unite in a three-part structure known as ozone. Ozone, referred to as O₃, is a gaseous molecule which consists of three oxygen atoms all sharing the same electrons.

When using ozone in an area that is struggling to heal, it creates a localized hydrogen peroxide-like effect. This produces local tissue damage as a controlled injury, and then it converts back to high-grade oxygen sending beneficial healing growth factors to the area and flushing the area with extra blood flow. Local administration of ozone also contributes to a rapid reduction in inflammation by means of reducing local cytokines. Results are typically improved in regenerative therapies with the addition of ozone.

Dextrose Prolotherapy

Dextrose prolotherapy consists of a variety of different combinations depending on the desired outcome or the provider using it. Generally speaking, it combines dextrose sugar, local anesthetic, and other nutrients. I personally refer to dextrose prolotherapy as the “middle man approach” or a “flagging system” as it is used to provide a low-grade local irritation to an area that says, “hey come pay attention to this area.” With chronic injuries, there isn’t a strong enough signal locally or our body isn’t paying enough attention to it to fully heal and external help is needed.



Every case will provide different challenges. Typically, I think of dextrose prolotherapy as a first-line approach to “stretched-out rubber bands,” ie. ligaments and tendons.

Prolotherapy is also superior when needing hydrodissection, or liquid pressure to break up scar tissue. Dextrose prolotherapy may also be most beneficial to locally damaged nerve tissues as it is a local nutrient blast. It helps widen the pain threshold, meaning it would take more pain to elicit a response.

PRP - “Skipping the middle man”

Platelet Rich Plasma, or PRP, is a technique where a solution is derived from the patient’s own blood sample and injected into an injured area to stimulate healing and repair. Platelet-rich plasma is derived from a normal blood sample that is spun in a centrifuge. This concentrated plasma contains powerful healing properties and is rich in growth factors. These naturally occurring growth factors in the PRP are very similar to undifferentiated cells, also known as stem cells. Stem cells stimulate growth factors that encourage cartilage development which helps with tendon/ligament laxity, and repairing the smooth bone-coating articulating cartilage.

Other growth factors promote new blood supply enhancing nutrient delivery to the area, and new nerve development to restore proper movement, sensation, and downregulated pain signals. PRP injections are used to improve and hasten the recovery and healing from acute injuries. It is a great resource for injured athletes or anyone needing to get back in action quickly.

Stem cells are another option for regenerative medicine. The primary types of stem cells available are umbilical cord-derived, adipose tissue, and bone marrow. The types of stem cells used depend on the case and the area being treated. In many offices, a combination of stem cells, exosomes, Wharton’s jelly, and PRP are used.

Conclusion

Pain doesn’t have to be our “normal” as we age. It is our signal to rethink our general lifestyle habits and make the changes necessary to bring our body back to health. If we’ve done everything we can do on our own, then natural, non-surgical intervention options are still available. Don’t give up, and don’t accept that pain has to be part of your aging process.



Dr. Dustin Moffitt, ND specializes in natural pain management techniques. To learn more about regenerative injections or to book an appointment with Dr. Moffitt call 785-628-3215.



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Maintaining Vascular Health as We Age



AUTHOR

Mike Shaw PA-C

There's a quote that says you are only as old as your arteries and I say there is a lot of truth to that.

The arteries are the main conduit for the delivery of oxygen, getting rid of carbon dioxide, and supplying all nutrients throughout the body. The health of the vascular system ends up having a fairly profound effect on all organ systems, because pressure changes and changes in pulsatile waveforms can damage tissues of different organ systems, especially the brain, kidneys, and heart.

As the arteries age, they become stiffer. When the heart beats, but the arteries can't expand, it shoots up the systolic blood pressure and puts pressure on your brain, your kidneys, and your heart. Those are obviously organs that are really important to us, and they tend to give us problems as we get older.

Rather than focus on all the things that can go wrong, I'd like to talk about things that you can do to help monitor and potentially slow the rate of aging of your vascular system.



PHYSIOAGE[®]

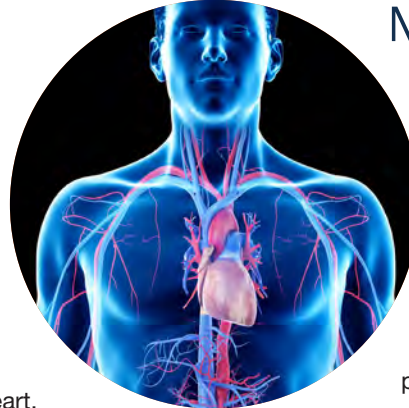
A while back, I met a physician that developed a system called PhysioAge that was a way to evaluate and analyze the rate of aging in an individual person. One of the six major biomarkers of this system measured vascular age or what they call cardio age. It was measured using sophisticated equipment that can evaluate the pulsatile pressure changes when the left ventricle contracts and squeezes a volume of blood out through the aorta and downstream.

Ideally, people get a baseline measurement in their 20's or 30's and continue to measure throughout their later years. However, we aren't all that proactive. No matter your chronological age, taking a measurement now to determine your cardio age is helpful. It still provides you a data point to see how well you do as chronological time moves forward. And of course, the whole game is trying to keep the physiologic rate of artery aging behind the chronological advancement of time.

It also alerts you to changes that may be occurring too quickly and if an intervention is necessary to help slow down the rate

of deterioration. The effectiveness of the intervention can be determined by subsequent measurements.

The Importance of Nitric Oxide



In youth, our bodies innately possess sufficient quantities of a very potent vasodilator called nitric oxide. Nitric oxide is responsible for the relaxation and dilation of vessels, low flow pressure, increased perfusion, distribution of nutrients, and elimination of waste products. As we age, nitric oxide, like a lot of other things inside the body, declines. When you see an increase in blood pressure, it's important to look at what's going on with nitric oxide as well.

Many people may not know this, but beets are an excellent source of nitrate that gets converted to nitric oxide. If you are not a fan of eating beets, beet-derived supplements such as Neo 40 are also available.

Managing Inflammation

When we talk about change in vascular structure and elasticity, we don't want to forget about the interplay with the inflammatory response inside the body and the effect it has on the whole vascular system. Inflammation affects all organ systems, but when you start to generate inflammation in the vascular system it exacerbates the degrading process of the protective linings which reduces elasticity and promotes rigidity.



I'm a big proponent of looking at natural ways to try to help lower inflammatory responses and one of the easiest, unless you're allergic to fish, is omega-3 fatty acids. Incorporating anti-inflammatory foods and spices like berries, broccoli, avocado, and turmeric can also help.

Exercise for a Healthy Vascular System

Movement is crucial as we age, and I don't just mean movement of our muscles, bones, and joints. We want to maintain the movement of blood through our vessels to keep them healthy and flexible.

Exercise, such as interval training, is a great way to get your heart beating and your blood moving. This involves picking up the pace, whether it be during a walk, run, or training session, for a set amount of time and then slowing back down for a short duration. Interval training has been shown in some studies to lower blood pressure in overweight and obese individuals.

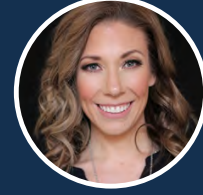


Measure, Move, and Manage

Maintaining vascular health as you age doesn't have to be complicated. Measure your nutrient levels, cardio age, and nitric oxide. Move your body regularly in a way that challenges your cardiovascular system, and manage inflammation to slow the degradation process. These simple steps can help keep your vascular system young and fit no matter your chronological age.

Contact the Editor

Please send any comments or suggestions to newseditor@riordanclinic.org
Thank you for reading.



Leah Chischilly
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Editor

To become a patient at Riordan Clinic, call 800-447-7276



Mike Shaw, PA-C specializes in natural anti-aging therapies.

To learn more about the PhysioAge program or to book an appointment with Mike, call 316-682-3100 for more information.




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FORMULA-216™, the 24/7 Vitamin C Pill™

Doubles Blood Levels of Vitamin C Without Continual Reliance Upon Diet or Supplements



AUTHOR

Bill Sardi, PHD

Results of preliminary clinical tests are in and they confirm that the unique array of ingredients in FORMULA-216™ double blood serum levels of vitamin C in all subjects tested without intake of this essential nutrient from dietary or supplemental sources. The effect is long-lasting – up to 24 hours.

The study also found Formula-216™ elevates vitamin C blood levels as biological stress is induced, mimicking how most animals, who internally produce vitamin C on demand, respond to mental or physical stress.

Dr. Tom Levy, noted author and authority on the healthy properties of vitamin C, says this is a revolutionary discovery, possibly the greatest advancement in human health in the history of modern medicine. Many generations ago humans synthesized vitamin C internally – via the enzymatic (gulonolactone oxidase) conversion of sugars (glucose from the liver, sucrose and fructose from the diet) to ascorbate (vitamin C) as they pass through the liver. A universal gene mutation (GULO gene) halted that defensive mechanism. Most other mammals, with the exception of fruit bats, guinea pigs and primate monkeys, internally produce vitamin C.

Stress releases sugar stores to provide extra energy to address biological or mental threats. Humans lost their ability to internally produce vitamin C on an as-needed 24/7 basis and their ability to deal with biological (mental and physical) stress.

Due to inflammation, infection, malignancy, or aging, the demand for vitamin C often increases beyond what the diet provides (110 mg/day for typical Americans) or what dietary supplements augment (500-1000 mg per pill). For example, a goat that weighs about the same as a human internally produces ~13,000 milligrams of vitamin C per day and more when under stress. Therefore, Formula-216 is the first stress-responsive vitamin C dietary supplement.

Vitamin C works to maintain health by pouring electrons to rebalance atoms. The atoms in about 5% of the air humans breathe – oxygen and nitrogen – lose an electron or two, become unbalanced and seek out a donor electron and in so doing damage surrounding cells and tissues. All inflammatory, infectious, malignant, and aging processes in the human body emanate from unbalanced electrons (called radicals), instructs Dr. Levy.

As a water-soluble nutrient, most vitamin C is rapidly excreted in urine flow within 30 minutes. Fortunately, the kidneys recycle some

vitamin C as it is excreted to maintain minimal blood levels.

Time-release vitamin C pills have been designed to help overcome the rapid depletion problem, prolonging vitamin C levels for up to two hours, but still, the total number of re-balancing electrons provided by dietary and even time-release vitamin C is not even close to internal synthesis, especially on a 24/7 basis, says Dr. Levy.



“Vitamin C pills are akin to using a fire extinguisher over and over to pour electrons on a free radical fire. FORMULA-216™ is like a built-in fire sprinkler system, pouring electrons on unbalanced atoms on an as-needed 24/7 basis,” says Dr. Levy.

We’re evolving backwards to what most animals experience – rapid on-demand production of vitamin C.

Animal studies indicate life-long internal 24/7 production of vitamin C prolongs health span – most vitamin C-secreting animals live most of their lives in the wild without exhibiting symptoms of aging, even skin wrinkles, hair loss, or a decline in visual acuity. Vitamin C secreting animals remain free of brain plaque and are resistant over their lifetime to blockages in coronary arteries that produce heart attacks in humans, says Dr. Levy.

Whether FORMULA-216™ edits the GULO gene or recycles more vitamin C, or works by some other mechanism, is unknown. Scientists will have to work backward to determine that. But we do know it is working, notes Dr. Levy.

For the first time, humans may be able to stave off the ravages of aging, says Dr. Levy. Instead of waiting for age-related maladies to occur and be treated, maybe humans can prevent or delay them from occurring in the first place, he says.

Do as the animals do.

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