## Sunscreen chemicals soak into your bloodstream

You've probably been taught to gird your sun-starved skin for battle with cancer-causing cosmic rays every time you go outside. Choose a spray, choose a lotion, but by heavens, choose something! Legions of



doctors, parents, and YouTube beauty influencers are unanimous on this point. But with sunscreen application evolving from a week or two at the beach every year to a constant daily slather, US health regulators want to know more about how all those photoprotective chemicals interact with people's skin.

If they sink into tissues and get absorbed into the bloodstream, that could be a problem. Then, like other over-the-counter drugs the Food and Drug Administration oversees, sunscreens should be studied to make sure they don't mess up people's hormones, affect their reproductive systems, or cause cancer. Such safety testing has never been done on the active ingredients in sunscreen, because those chemicals were approved decades ago, before anyone suspected they could be absorbed into the body. Now we know it's more than just a suspicion.

Continued on page 5

## Your better sleep tip: visit a Doctor of Chiropractic

### Improved sleep is a key benefit of chiropracti care

This information is provided by the Foundation for Chiropractic Progress, online at <a href="https://www.f4cp.org/">https://www.f4cp.org/</a>

It's a well-known fact that pain causes sleep deprivation, but not so widely



known is the fact that lack of sleep can impact pain levels. Even less known is the importance of proper sleeping posture. While good posture is important when sitting and standing, it's even more important during sleep as the muscles and ligaments of your back relax while you sleep and need to be protected. The Foundation for Chiropractic Progress, a not-forprofit organization dedicated to educating the public about the value of chiropractic care, highlights the correlation between sleep, proper sleeping posture and pain.

Sleep deprivation is linked to higher mortality risk and lower productivity, decreasing the U.S. Gross Domestic Product by 2.28 percent, or \$411 billion each year, according to Rand Corp. These findings are a concern considering one in three Americans report their sleep quality as "poor" or "only fair." There are many well-known sleep saboteurs, including improper sleeping postures, such as stomach sleeping, that can cause health problems ranging from neck and back pain to sleep apnea.

Continued on page 10



## IACP

The mission of the Idaho Association of Chiropractic Physicians (IACP) is to act as the unified voice, leader and stalwart supporter of the individual licensed doctors of chiropractic and supporting associates who provide exceptional health care and wellness to the patients and communities of Idaho. In supporting our Idaho chiropractic physicians, the IACP will work diligently to protect, enhance and build opportunities for the chiropractic industry and increase public access to chiropractic care.

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### President's Corner

### Working year-round to promote chiropractic in Idaho

#### By Dr. Scott Crawford, IACP President

The IACP Board recently met for our Spring in-person board meeting. It was nice to debrief after a very successful convention and also plan for the upcoming year. I think it's important for the members to realize the work that goes on behind the scene on your behalf. We meet as a board in person 3 times a year, as well as a monthly phone conference. The in-person meetings take several hours which allow us to talk through issues and ideas and carefully consider what will bring the most value to our membership. This includes setting our legislative agenda, convention planning, strategic planning, and preparation for potential challenges.

We are excited about the momentum we have right now, and it is a good time to be a chiropractor in our state of Idaho! Please reach out to your district representative with concerns questions or to get more involved in the IACR You can also call or or

with concerns, questions, or to get more involved in the IACP. You can also call or email us through our website.





## "Join the Pack" Become a member of the IACP

The IACP acts as a resource, representative and leading advocate for the chiropractic industry in Idaho. We cannot continue to properly serve the chiropractic profession without the commitment and support of exceptional industry leaders, such as yourself. The IACP Board and its members believe that membership in the Association is and should be mutually beneficial to both the Doctor and the IACP, which makes it a perfect cooperative relationship. As a member, you will have multiple opportunities to obtain learning and marketing opportunities, at a discounted rate, through membership, as well as, have an opportunity to utilize the services of the IACP team and its Board. You will also have an opportunity to get involved in important issues, from the center, along with other industry leaders and spokespeople. At the same time, the Association continues to grow and provide broader services to the industry with your support. Join now and be a part of the "pack" that will lead us into the future!

## Sunscreen chemicals soak into your bloodstream

#### Continued from front page

Researchers at the <u>FDA have revealed the results</u> of a small clinical trial designed to test how four of the most common sun-filtering molecules on the market behave after they've been sprayed on and rubbed in. The results, published in the *journal JAMA*, show that contrary to what sunscreen manufacturers have been saying, UV-blocking chemicals do seep into circulation.

Now, don't panic and toss your tubes. There's no evidence yet that they're doing anything harmful inside the body. But the revelation will have serious impacts on sunscreen manufacturers going forward, and may change what options you'll find on drugstore shelves before the year is out.

"Everyone had always thought that because these are intended to work on the surface of the skin that they wouldn't be absorbed, but they are," says Theresa Michele, director of the FDA's division of nonprescription drug products, and coauthor on the FDA-funded study. Her team found that it took only a few hours after the application of sunscreen for the photoprotective chemicals to infiltrate the bloodstream and shoot up to concentrations above the FDA's toxicology threshold that triggers further safety testing.

The researchers saw the same patterns in all 24 of the volunteers they recruited—12 men and 12 women, who were randomly assigned to apply one of four commercially available sunscreens: two sprays, a lotion, and a cream. The participants applied their potions according to recommended labeling; four times a day for four days to 75 percent of their bodies, roughly the amount of skin you'd be showing in a bathing suit. For those four days, and three days after, the researchers collected blood every few hours to be analyzed for the presence of avobenzone, oxybenzone, octocrylene, and ecamsule, 30 samples in all.



They discovered that while it took only a few hours for the UV-blocking chemicals to spike over the target, for three of the four formulations, those levels remained elevated through the end of the study—three days after participants had ceased spraying and smearing. Only the cream users saw their chemical concentrations tail off sooner.

The fact that these sun-filtering molecules do penetrate into the circulation system does not on its own mean that such ingredients are unsafe. "There might be nothing, and that would be great," says Kanade Shinkai, a dermatologist at UC San Francisco and editor in chief of JAMA Dermatology. "But the problem is that we just don't know." The bottom line, she says, is that although the evidence is irrefutable that the sun causes skin cancer, scientists know a lot less about sunscreen chemicals' relative risks and benefits.

To understand what, if any, effects such chemicals have on internal tissues will take more research. Particularly urgent is learning more about long-term exposure and how absorption rates differ in infants and children, with their smaller ratio of body surface to overall size. Then there's the importance of real-world data; for example, assessing sunscreen's effects on a hot, sandy beach, instead of in a clinical lab's temperature- and humidity-controlled confines. Yet the trial's results underscore the need for more data on sunscreen absorption, as the FDA has long demanded from manufacturers, without success.

The history of sunscreen regulation is long and contentious, but the core of the conflict boils down to the fact that the US treats sunscreen as an over-the-counter drug, and the rest of the world considers it a cosmetic. When new research emerged in the late '90s and early 2000s suggesting that UV-blocking ingredients in chemical-based sunscreens could be absorbed into the human body, the agency began to ask any companies bringing new molecules to market to include such data in their safety studies. Those corporations balked, and development stalled in the US. Meanwhile, Europe added at least eight new, more advanced photoprotective filters to its sun-shielding arsenal.

In an effort to end the stalemate, Congress passed the Sunscreen Innovation Act in 2015. As part of that effort, in February the FDA announced it was overhauling the way the agency regulates sunscreens, to "keep pace with evolving science." Chief among the proposed changes was subjecting the 16 UV-filtering chemicals currently on the US market to

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## Sunscreen chemicals soak into your bloodstream

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the same scrutiny as new molecules. To prove they're safe and effective, the FDA is now asking US sunscreen makers to submit additional data measuring how these ingredients absorb into the bloodstream. If they don't absorb above the toxicological threshold, no problem. But if they do, the FDA wants to see more tests—assessing cancer risk and harm to the reproductive and endocrine systems, standard drug safety stuff.

But the testing requirements could also end up giving Americans fewer choices, at least in the short run. If US manufacturers fail to conduct absorption studies and provide that data to the FDA by the time the agency's new rules are finalized in November, it would mean (in theory) the removal of those products from shelves. Only two ingredients so far have been ruled safe and effective—zinc oxide and titanium dioxide. The FDA has said they will grant deferrals to companies willing to commit to undertaking studies for the remaining 12 molecules in question.

### The best sunscreens of 2019 (and toxic ones to avoid)

It's no secret that the sun (in moderate doses) provides all sorts of health benefits, including helping our bodies manufacture vital vitamin D. With summer right around the corner, though, many people are looking for the best sunscreens to cut their risk of sun overexposure, sunburns and possibly skin cancer.

The issue? All sunscreens are not created equally. In fact, a 2019 report from Environmental Working Group (EWG) found that nearly two-thirds of sunscreens don't work and/ or contain concerning ingredients that are readily absorbed by the body. In fact, a recent study found that sunscreen chemicals hit the bloodstream within a day of using them, and at levels high enough to prompt a government investigation on safety.

The findings stated, "In this randomized clinical trial that included 24 healthy participants and application of 4 commercially available sunscreen formulations, maximum plasma concentrations (geometric mean [coefficient of variation]) for the active ingredient avobenzone were 4.0 (60.9%), 3.4 (77.3%), 4.3 (46.1%), and 1.8 (32.1%) ng/mL for 2 different sprays, a lotion, and a cream, respectively. The systemic absorption of sunscreen active ingredients supports the need for further studies to determine the clinical significance of these findings."

The EWG's 13th Annual Guide to Sunscreens report show that while there have been major improvements over the last decade, the vast majority of sunscreens available for purchase in the U.S. still contain damaging chemicals or fail to offer enough protection against ultraviolet rays. About half of the beach and sport sunscreens sold in the U.S. that EWG analyzed would not be allowed on the market in Europe due to inadequate protection against UVA rays.

But there is positive movement on the sunscreen front... EWG has been pushing the Food and Drug Administration to update and improve its sunscreen regulations for years to better protect public health. Now, the FDA is finally taking up the issue and proposing big changes to sunscreens. The downside? This is all still in the works, so it doesn't pertain to sunscreens on the market for the 2019 season.

As unbelievable as this may seem, FDA started updating sunscreen rules more than four decades ago. In February, the agency at long last issued a proposed set of final rules. As written, the new rules would bring significant advances in both effectiveness and safety, EWG reports. But many big chemical manufacturers and sunscreen companies are lobbying heavily for a much weaker proposal that would likely leave the state of sunscreens in the U.S. largely unchanged.

And then there's the UVA dilemma...A past EWG report cited research of Brian Diffey, PhD, emeritus professor of photobiology at the Institute of Cellular Medicine at Newcastle University. He's shown that, on average, U.S. sunscreens allow about three times more UVA rays to transfer through skin compared to European sunscreens. In fact, Americans sunscreen choices are fewer and often offer worse UVA protection compared to those available in the European Union.

This matters because UVA rays are more abundant than UVB rays, and UVA damage is more subtle than the sunburns induced mainly by UVB rays. UVA rays can damage your skin invisibly by suppressing the immune system and aging the skin over time; overexposure of these rays are also linked to the development of melanoma, squamous cell carcinoma and basal cell carcinoma, too.

In a newly proposed rule from the FDA, the agency is finally

voicing concern about the role of UVA rays in the development of skin cancer. It stated that, "UVA exposure is a significant concern," and high SPF products currently on the market may expose users to "excessively large UVA doses."

Now, it's important to note that there is no perfect sunscreen. Many contain harmful chemicals, and even mineral-based ones often contain nanoparticles, minute ingredients that can cross the blood-brain barrier and also harm aquatic life. Beyond that, sunscreen is unique compared to many other personal care products because you coat it thickly onto your skin, often multiple times a day. You don't get that type of hours-long, skin-absorbing exposure with something like, say, shampoo you quickly wash off. That's why it's very important to look for safer sunscreens if you use them and

to recognize that you can't only rely on sunscreens alone to prevent sun overexposure.

"No product is going to be fully protective and no product will last on your skin for more than two hours max," explains Lunder. She says thickly applying sunscreen coatings, reapplying every time you're out of the water and choosing a better product to begin with are all key. But other sun smart methods to avoid overexposures are a must. More on those later.

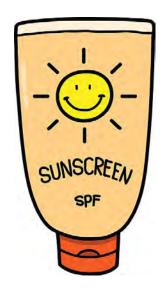
In the EWG's 2019 best sunscreens report, the group analyzed the ingredients and labeling claims more than 1,300 products with SPF, including 750 sport and beach sunscreens. So what are the best sunscreens out there?

#### The best sunscreens of 2019, beach & sport

Attitude 100% Mineral Sunscreen, Fragrance Free, SPF 30
All Good Sunstick, Unscented, SPF 30
Aveeno Baby Continuous Protection Lotion Sunscreen, Sensitive Skin, SPF 50
Badger Active Natural Mineral Sunscreen Cream, Unscented, SPF 30
Goddess Garden Sport Mineral Sunscreen Lotion, SPF 50
Just Skin Food Baby Beach Bum Sunscreen Stick, SPF 31
Kabana Organic Skincare Green Screen Sunscreen Lotion, Original, SPF 32
Poofy Organics The Sunscreen Lotion, SPF 30
Poofy Organics The Sunscreen Stick, SPF 30
Sunology Mineral Sunscreen, Body, SPF 50
Thinksport Sunscreen, SPF 50+
Waxhead Sun Defense Zinc Oxide Sunscreen Stick, SPF 30

#### The best sunscreens of 2019, moisturizers

Badger Damascus Rose Face Sunscreen, SPF 25
Block Island Organics Natural Face Moisturizer, SPF 30
Drunk Elephant Umbra Sheer Physical Daily Defense, SPF 30
Goddess Garden Face the Day Daily Moisturizer, SPF 30
Juice Beauty Oil-Free Moisturizer, SPF 30
Sanre Shaded Rose Solar Calming Facial Cream, SPF 30
Suntegrity Skincare Natural Moisturizing Face Sunscreen & Primer, SPF 30



#### The best sunscreens of 2019, kid-friendly

Adorable Baby Sunscreen, SPF 30+
All Good Kid's Sunscreen, SPF 30
Aveeno Baby Continuous Protection Sensitive Skin Zinc Oxide Sunscreen Lotion, SPF 50
Badger Kids Active Sunscreen Cream, Tangerine & Vanilla, SPF 30
Bare Republic Baby Mineral Sunscreen Lotion, SPF 50
Blue Lizard Australian Sunscreen, Baby, SPF 30+
BurnOut Kids Sunscreen, SPF 35
California Baby Calendula Sunscreen, SPF 30+
COOLA Suncare Baby Mineral Sunscreen Stick, SPF 50
Equate Baby Zinc Sunscreen Mineral Lotion, SPF 50
Goddess Garden Kids Mineral Sunscreen Lotion, SPF 50

Continued on next page

## The best sunscreens of 2019 (and toxic ones to avoid)

Continued from last page

#### The Best Sunscreens of 2019, Kid-Friendly (continued)

Hawaiian Sol Sol Kid Kare, SPF 50
MDSolarSciences KidCreme Mineral Sunscreen, SPF 40
Neutrogena Pure & Free Baby Sunscreen, SPF 50
Nurture My Body Baby Organic Sunscreen, SPF 32
Sunology Mineral Sunscreen, Kids, SPF 50
thinkbaby Sunscreen, SPF 50+
thinksport Kids Sunscreen, SPF 50+
Tom's of Maine Baby Sunscreen Lotion, Fragrance Free, SPF 30
Waxhead Sun Defense Baby Zinc Oxide Sunscreen, SPF 35



#### Most toxic sunscreens to avoid

Children are more susceptible to certain toxic chemicals during development and because blistering sunburns early in life can lead to an increased risk of skin cancer down the line. That's why it's even more vital for children and babies to avoid the most toxics sunscreens. While other brands received low scores, too, here are some of the children and baby sunscreen products with the worst ratings.

#### Worst sunscreens for kids:

Banana Boat Kids Continuous Spray Sunscreen, SPF 100
Banana Boat Kids Sunscreen Lotion, SPF 100
Coppertone Water Babies Sunscreen Lotion Spray, SPF 50
Coppertone Kids Sunscreen Spray, SPF 50
Coppertone Kids Wet Protect Sunscreen Spray, SPF 50
CVS Health Children's Clear Spray, SPF 50 and 70
Equate Baby Sunscreen Lotion, SPF 70
Neutrogena Wet Skin Kids Stick Sunscreen/Spray, SPF 70+
Up & Up Kids Sunscreen Spray, SPF 50

#### Some of the other worst overall offenders scoring in the Red Zone (7-10) for major safety concerns:

Panama Jack Sport Sunscreen Lotion, SPF 50+ & 85
Neutrogena Sensitive Skin Sunscreen, SPF 60+
CVS Health Sensitive Skin Sun Lotion, SPF 60+
Up & Up Sport Sunscreen Spray, SPF 15, 30 & 50
Panama Jack Sunscreen Spray, SPF 15, 30 & 70
NO-AD Sun Care Sport Continuous Spray Sunscreen, SPF 50
Neutrogena Wet Skin Sunscreen Spray, SPF 50 & 85+
Neutrogena Ultra Sheer Sunscreen Spray, SPF 30
Neutrogena Ultra Sheer Body Mist Sunscreen Spray, SPF 100+
Neutrogena Ultra Sheer Dry-Touch Sunscreen, SPF 70, 85+ & 100+

#### This is by no means a complete list.

Here's a list of the sunscreens rated from worst to best and from best to worst.

And you can search all sunscreens here.

## Idaho Association of Chiropractic Physicians and OUM Chiropractor Program:

Providing products and services designed to educate and assist chiropractors practicing in Idaho



IACP and OUM share a common goal to advance the chiropractic profession and support chiropractors in Idaho and across the United States, regardless of their philosophy.

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## Your better sleep tip: visit a Doctor of Chiropractic

#### Continued from front page

The National Sleep Foundation estimates that at least 57 percent of Americans suffer from pain that disrupts their sleep at least a few nights a week. More importantly, sleep loss has been shown to increase sensitivity to pain specifically by lowering pain thresholds.

Federal health officials have reviewed cases of dangerous, sometimes fatal, incidents tied to insomnia medications.

Roughly 100 million Americans suffer from chronic pain that interferes with their daily activities, yet, very few doctors have specialized training in pain management. Pain education for North American medical students is limited, variable and often fragmentary, according to *The Journal of Pain*.

Doctors of chiropractic (DC) take a natural, holistic approach to pain management by bringing the body back into alignment, recommending exercises and other activities to help patients regain their normal range of motion and flexibility, while relieving not only the pain symptoms but also correcting the issue that is causing the pain.

Many Americans are seeking alternatives to insomnia medications especially since the FDA published the results of a

GOOD POSTURE
HELPS BACK PAIN
DO STORE
HELPS BA

new safety review based on recent reports of serious injuries and deaths related to prescription sleep medicines.

"Although most patients initially seek chiropractic care due to back or neck pain, many find that not only does their pain decrease and sleep improve, they also lower their stress and generally feel better and more energetic," said Sherry McAllister, DC, executive vice president of F4CP. "Chiropractic care can also help people who are trying to stop taking highly addictive sleeping pills and sedatives. Typical symptoms of withdrawal include trouble sleeping, restlessness and anxiety. In addition to chiropractic care, other behavioral, dietary and lifestyle choices need to be examined. A doctor of chiropractic can design a comprehensive care plan that supports a patient's waking and sleeping hours."

Chiropractic is a non-pharmacological care approach that focuses on one of the top causes of inadequate sleep: neuro-musculoskeletal pain. While designing a care plan to manage pain, a DC will discuss sleep habits and other lifestyle choices that could be contributing to pain or lack of mobility. DCs are required to complete undergraduate training, followed by four to five years of chiropractic college, residency and/or internship programs, and finally, national board exams, state licensure exams and continuing education — similar to other healthcare providers.

"Along with nutrition, stress management and proper posture, sleep is one of the most important factors in keeping us healthy, productive and happy," said Dr. McAllister. "All four require attention and action because they influence one another in many ways. Doctors of chiropractic can design a care plan that naturally helps people improve all these areas of their life."

#### **About the Foundation for Chiropractic Progress**

A not-for-profit organization, the Foundation for Chiropractic Progress (F4CP) informs and educates the general public about the value of chiropractic care and its role in drug-free pain management. Visit <a href="https://www.f4cp.org">www.f4cp.org</a>; call 866-901-F4CP (3427).

At left: The Foundation for Chiropractic Progress is offering a free ebook on good posture. To download your copy, click on the image at the left, or follow this link: <a href="https://www.f4cp.org/package/home/viewfile/whigood-posture-helps-back-pain">https://www.f4cp.org/package/home/viewfile/whigood-posture-helps-back-pain</a>





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By Dr. Josh Axe, DC

Thanks in no small part to a reliance on and addiction to technology, a sedentary lifestyle has become the norm. As a result, good posture has never been more important, but unfortunately, our obsession with our smartphones has made many of us develop forward head posture.

Why is this bad? Every time we lean forward 60 degrees, the stress on our necks is increased by approximately 60 pounds. In fact, every time you move your neck forward an inch, an extra 10 pounds of weight is added to your neck. As a result, forward head posture leads to chronic pain, numbness in the arms and hands, improper breathing, and pinched nerves.

That's not all. It turns out, forward head posture doesn't just affect us physically — it affects our mood as well. Thanks in no small part to our smart phone addiction, aka nomophobia, most of us are constantly putting undue strain on our necks and spinal cords, which has adverse effects on our emotions. Amy Cuddy, a professor at Harvard Business School and the author of the forthcoming book "Presence: Bringing Your Boldest Self to Your Biggest Challenges," and her college, Harvard's Maarten W. Bos, have dubbed this phenomenon iPosture, or iHunch.

Not only do asthma and heart disease begin in your neck,

but so does your brain health. For instance, posture has an impact on feelings of stress, mood, memory and even behavior.

A 2010 study conducted in Brazil examined posture and body image in people with major depressive disorder. Over 10 weeks, 34 participants with depression and 37 healthy volunteers had their posture assessed. Researchers found that patients' posture changed, including instances of forward head posture, during episodes of depression, and there was a "mild dissatisfaction with body image."

Further, the Department of Clinical Psychology at the University of Hildesheim in Germany gathered 30 depressed inpatients to "investigate the effects of sitting posture on the tendency of depressed individuals to recall a higher proportion of negative self-referent material." The findings showed that posture can affect memory. After being randomly assigned to sit in a slouched or upright position, the people who sat upright showed no bias in word recall while those who slumped recalled mostly negative words.

In addition, poor posture has been shown to affect stress response. In 2015, Health Psychology: The Official Journal of the Division of Health Psychology, American Psychological Association published the results of a randomized trial on how posture affects stress responses. Seventy-four participants were randomly assigned to either upright or slumped

seated posture. For the experiment, participants' backs were strapped to hold the assigned posture. The "upright participants reported higher self-esteem, more arousal, better mood, and lower fear, compared to slumped participants." In addition, those sitting in a slumped position "used more negative emotion words, first-person singular pronouns, affective process words, sadness words, and fewer positive emotion words and total words during the speech."

Researchers concluded that good posture in the face of stress maintains self-esteem, improves mood, increases rate of speech and reduces self-focus. Meanwhile, poor posture actually resulted in more stress, potentially leading to chronic stress.

Posture even seems to influence behavior. A study in Japan worked to correct elementary students' posture, focusing on all four major components of posture: feet, buttocks, back and the entire body. After practicing and promoting good posture in class, not only did posture increase roughly 20 percent to 90 percent in students, but students' class-room performance improved as well.

A lot of the poor posture out there, whether it's slumping or forward head posture, is the result of the devices we use. From computers to tablets to smartphones, they all require a different angle to utilize, all of which throw our posture off. And it turns out, the size of device matters — but it's not what you may think. Instead of larger devices causing more problems, the opposite seems to be true. That's because the smaller the device, the more we must move our heads or necks forward.

Cuddy and Bos also conducted their own <u>preliminary research</u> on iHunch in their study, *iPosture: The Size of Electronic Consumer Devices Affects our Behavior*. Using an iPod Touch, iPad, MacBook Pro and an iMac, participants were



assigned one of the devices. Cuddy and Bos found, as they hypothesized, that those working on smaller devices behaved more submissively, while those who used larger devices were more assertive.

The good news is there are many steps you can take to correct your slumping or forward head posture. For instance, you can try Egoscue, a a postural therapy designed to eliminate chronic pain without drugs or surgery. It's a great way to improve posture, which can also relieve tension headaches as an added bonus. Chiropractic adjustments can also help relieve joint pain and promote better posture.



**Dr. Josh Axe, DC, DNM, CNS**, is a doctor of chiropractic, certified doctor of natural medicine and clinical nutritionist with a passion to help people eat healthy and live a healthy lifestyle. In 2008, he started a functional medicine center in Nashville.

Dr. Axe founded the natural health website <u>DrAxe.com</u>, which at over 17 million monthly visitors is considered the No. 1 natural health website in the world today. Its main topics include nutrition, natural medicine, fitness, healthy recipes, home DIY remedies and trending health news. His website includes a group of credentialed editors, writers and a Medical Review Board.

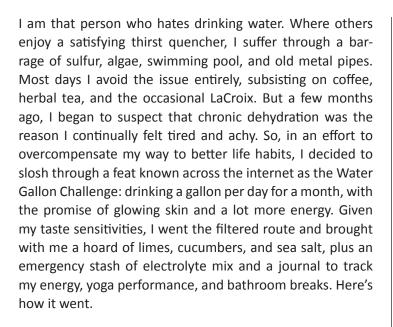
He has also been a resource for many professional athletes. In 2009, he began working with the Wellness Advisory Council and Professional Swim Teams. He worked with professional swimmers, providing nutritional advice and performing musculoskeletal work on the athletes to increase their performance. He also traveled to the 2012 Games in London to work with USA athletes.

Dr. Axe has authored several celebrated and bestselling books including Eat Dirt, The Real Food Diet Cookbook and Essential Oils Ancient Medicine. Eat Dirt: Why Leaky Gut May Be the Root Cause of Your Health Problems and 5 Surprising Steps to Cure It was published by Harper New Wave in March 2016, and it currently receives 4.6 out of 5 stars on Amazon. In January 2017, Essential Oils: Ancient Medicine for the Modern World was published, and it's garnered 4.7 out of 5 stars on Amazon. His new book, Keto Diet: Your 30-Day Plan to Lose Weight, Balance Hormones, and Reverse Disease, promises to be the definitive book on the ketogenic diet.

# What happens when you drink a gallon of water a day?

Notes from a month-long hydration quest.

By Aleta Burchyski
Associate Managing
Editor of Outside



**Day 1:** I'm peeing every 15 minutes. How in the hell am I supposed to get anything done?

Day 2: I did not think it was physically possible to pee more than I did yesterday (21 times), yet here we are, 23 times.

Additional instances of bodily rebellion include an afternoon of mild nausea and a slight headache.

Day 4: I didn't feel like a 70-year-old woman when I got out of bed this morning. I deep-cleaned my house with the stamina of an old-school Disney princess. Is water the magical cure for the generalized fatigue my doctor insists is not a real thing?

Day 5: Yes! Water is life! I no longer hobble into my day with my feet and spine curled up like dry leaves. I thought this experiment would be miserable, but I totally get it now. (Though to be clear, water—even filtered water—still tastes disgusting without flavor enhancements.)

Day 7: Can we talk about how good I am at yoga right now? My hamstrings are much more flexible, and my back bends with ease. Even better, I have energy afterward, and I'm not horribly sore the next day.

Day 10: A switch to water that's been ultrapurified by reverse osmosis (plus "carbon polishing" and UV sterilization)

has proved revelatory. It's fully palatable and delicately sweet, without a hint of chlorine. I'm now the proud owner of a refillable three-gallon jug.

**Day 14:** I crave water first thing in the morning instead of coffee. I don't recognize myself anymore.

Day 19: The peeing has decreased to ten times per day. I'm still acutely aware of how much water I'm flushing down the toilet, so I've donated \$30 to Charity: Water, which funds clean-water projects in 26 countries.

Day 24: My massage therapist confirms that my muscles and fascia are noticeably looser. She's shocked to learn that before this, in the two-plus years she's been trying to fix my body, I had been drinking barely any water.

Day 32: Oops, the month is over and I didn't even notice—hydration is routine, and I'm loving it. Am I going to keep guzzling 128 ounces every day? Not unless I'm sweating buckets. But you better believe I'll keep sipping on glorious, ultrapurified water like my well-being depends on it.

## The new rules of hydration

There's misinformation circulating about how much to hydrate and when, but the basics are actually pretty simple according to Robert Sallis.

As a medical director for the Ironman World Championships in Kona, Hawaii, Sallis has spent 20 years watching athletes in every manner of distress get wheeled into the medical tent. He's seen hyponatremia, or overhydration, a handful of times. He's seen hundreds, maybe thousands, of dehydration cases. Sallis has even seen athletes show symptoms of both at the same time: they've dropped weight over the course of the race, signaling dehydration, but their blood sodium levels are dangerously low, a sign of hyponatremia.

What most surprises Sallis, a former president of the American College of Sports Medicine, is the amount of misinformation on hydration that he hears swirling among athletes. He partially blames the media that picks up stories like this Cycling News article from December 2016, in which Roger Palfreeman, Team Sky's top doctor, touted "functional dehydration" as a strategy for making his athletes lighter and thus faster. "It's stupid," says Sallis, adding that mental and physical performance plunges when you're 2 percent dehydrated—any advantage from a reduction in weight would likely be offset by a reduction in power and mental resolve.



There is a lot of new, thorough research on the rules of hydration. Here are the basics:

#### Thirst Is a poor indicator of dehydration

For easy workouts in cool weather lasting an hour or less, drinking only when you're thirsty is fine. But if it's at all hot or humid, or you're going out for a long time, that won't be adequate.

"Thirst is a very poor indicator of dehydration, especially if you're up at altitude or training somewhere dry," says Eric Sternlicht, an associate professor of kinesiology at Chapman State University. A 2016 study published in the International Journal of Sports Nutrition and Exercise Metabolism found that, when allowed to drink freely, 32 percent of collegiate athletes started exercise in a dehydrated state and more than 40 percent finished dehydrated. And these were young people. Sternlicht says our thirst mechanism gets even more faulty as we age.

Drinking to thirst doesn't totally rule out the threat of hyponatremia, either, says Nanci Guest, a sports dietitian and PhD candidate in nutritional sciences at the University of Toronto who has worked with some of Canada's top endurance athletes. After all, thirst is a subjective measure. Some may drink only enough to take the edge off their thirst, while others may drink until they are fully satisfied. Sallis has seen these cases at races like Ironman Kona. "They'll come in and they'll say, "I drank to thirst. I thought I was thirsty." Additionally, the symptoms of hyponatremia are similar to dehyration—lethargy, headache, nausea, vomiting, and swollen hands—which makes it tricky for a racer to recognize midcompetition.

There's an easy method to figure out exactly how much fluid you need: weigh yourself before you go out for an hour of Continued on next page

## The new rules of hydration

#### Continued from last page

exercise, and then weigh yourself again when you get home. That's the weight of fluid you should be taking in per hour. As the saying goes: a pint's a pound the world around. So plan to drink a pint, or two cups, of liquid for every pound you lose during exercise. For example, if you come back half a pound lighter, you should drink one cup of water per hour of exercise. Do this in a range of temps and intensities, says Sternlicht, and you'll have guidelines to follow in every possible set of conditions. Just don't take in substantially more water than you lose—that's a recipe for hyponatremia.

#### Plain water doesn't cut it for long events

It's common for Sallis to hear hyponatremic athletes say, "My stomach was feeling weird, so I switched to plain water." Sometimes his athletes ditch sports drinks to cut calories. Over the span of a four- to five-hour competition, this is a recipe for disaster. "Taking in water without sodium is how you dilute yourself," says Guest.

Sodium helps your body regulate how much water a cell can hold. When your body's sodium content drops to critically low levels, your cells take on too much water and swell. In the most extreme case, this can lead to cerebral and pulmonary edema (swelling around the brain and heart), which can be fatal.

While taking in sodium during sporting events won't entirely eliminate your risk for hyponatremia, Guest and Sallis both say it's a useful tool for helping to mitigate risk. If you don't like the taste of sports drinks, try electrolyte tablets.

#### You can speed up absorption rates

When you drink, fluids must pass through your stomach and into your small intestines before being absorbed into your bloodstream. But not all fluids move at the same rate. You can speed gastric emptying—or the rate at which fluids move through the stomach and into the small intestine—by tweaking how and what you drink. This translates to faster, more efficient delivery of calories, sodium, and fluids to your cells.

First, volume matters—to a degree. A review of studies on gastric emptying published in Nutrition Reviews in 2015 found that when people consumed 20 ounces of fluid at a time, the fluid moved faster through their stomachs than

when they ingested 13.5 ounces. And 13.5 ounces moved faster than seven ounces. The increased pressure in the stomach from more liquid signals to the body that it's time to get digestion moving. So what does this mean? If your gut can manage it, it's smarter to take a few long pulls off your bottle than tiny sips every ten minutes. You still need to keep total quantity in mind, but if you know you need to take in, say, two cups per hour, it's smarter to do that in two onecup sessions rather than small sips. (There is a limit to this principle: researchers have found that ingesting around 30 ounces at one time may actually slow absorption, although they're not yet clear on why.)

The amount of carbs in your sports drink also matters. Anything higher than 7 percent carbohydrate (like juice or soda) will languish in your stomach for a while. A lower-carb drink mix—like Clif Bar's Hydration Electrolyte or Skratch Labs Exercise Hydration, both of which are made up of 4 percent carbohydrate—will move through your body faster.

#### Sports drinks aren't as bad as you might think

If you're not exercising for more than 90 minutes, sipping on one of these is the caloric and sugar equivalent of sipping a soda. But for all-day endurance efforts? "Sports drinks work," says Guest. "We know the science is there and that there's an abundance of research supporting it." Lots of studies—including those found in the Journal of Sports Science, Sports Medicine, Indian Journal of Medical Research, and International Journal of Sports Medicine—show increased endurance performance while using sports drinks, mainly because of their carbohydrate load. Sternlicht agrees, saying that almost all commercial sports drinks formulas hit the mark when it comes to balancing carbs and electrolytes. Yes, they contain lots of sugar. But if you're doing any sort of



prolonged exercise or bursts of higher-intensity work, that sugar provides crucial fuel.

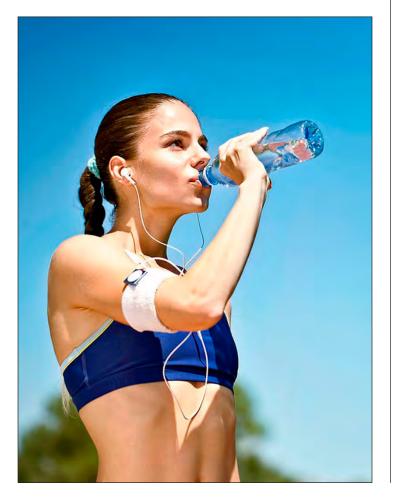
#### ...But the one you make at home is even better

Sports drinks are a pretty simple mix of water, carbs, and electrolytes. It's easy to DIY your own performance mix. Guest likes to blend cold watermelon juice with water, ice, and salt. You can dilute just about any juice in a one-to-one ratio (one part water, one part juice) and reach a nice 6 to 7 percent carbohydrate blend.

#### To get really scientific, you need to check your urine

Many studies have found that there's a huge range of data when you track fluid intake rates, dehydration, and hyponatremia among athletes racing the same course on the same day. In other words, platitudes on taking in X number of ounces of liquid for Y number of minutes of exercise aren't helpful. You need to tailor your program to your body.

Want to get super specific? Use a pee stick, or reagent urine test strip, that can provide you with stats like urine pH, ketones, and protein and glucose levels. The measurement you should pay most attention to is specific gravity—or how concentrated your urine is. A measurement of 1.005



to 1.015 (compared to water's measurement of 1) means you're hydrated. Anything higher than that (Guest says 1.025 or above) means you're dehydrated.

Guest adds that she used pee sticks, which you can get a most pharmacies, to monitor her athletes during the Pan Am Games. Occasionally, the light color of their urine would make it appear that her athletes were hydrated, but the pee sticks indicated otherwise. If you're training hard and are concerned about proper hydration, this is the way to get the most accurate, current information.

#### fluid dynamics

Nicole Lund, a nutritionist at New York University's Langone Sports Performance Center, explains the basics of hydration. How much: "Proper hydration means 85 ounces of water a day from food and beverages, plus more to replenish what you lose when exercising." (That's roughly four ounces of water for every quarter-pound of weight lost during your workout.)

Energy and performance: "Physiological changes occur even in the early stages of dehydration, including decreased blood volume and less oxygen delivered to working tissues. These changes make it harder to sweat, which will increase body temperature and heart rate and make you feel more fatigued during exercise."

Bathroom breaks: Frequent trips to the restroom are normal with increased water intake, Lund says. "As with anything else that you change drastically, your body needs time to adjust if you start drinking a lot more."

The bottom line: "We all wake up slightly dehydrated. The easiest change you can make is to have a big glass of water first thing in the morning."

#### **Your Action Plan**

The amount of water people need per day is up for debate, but studies suggest adults need nine to 16 cups of H2O. However this number varies depending on activity level, age, and how much water people are consuming in coffee, tea, or water-rich veggies and fruit. Here's how to keep yourself hydrated: Begin by drinking a glass of water as soon as you wake up, and 30 minutes before eating any big meal. (This will help control appetite, too.) Get in the habit of keeping a water bottle on hand at all times. And if the taste beings to bore, spice up the taste buds with a squeeze of citrus to the glass! Before you know it, all the benefits of water will be right at your fingertips... and in your body.



#### By Dr. Ray Foxworth, ChiroHealth USA

Nothing hurts quite as much as having a valued employee submit their resignation. From the data that we have collected, the average employee turnover in a chiropractic office is approximately 18 months. Employee turnover can become one of the most costly expenses for your practice. Replacing a single employee can be financially devastating for a clinic, and losing more than one, well...

It's not just a matter of the finances but also an issue of diminished productivity. You also run the risk of compliance concerns when tasks are overlooked due to being shorthanded, or lack of experience when bringing new employees on board. It can very quickly stop the most productive office in its tracks. A new employee may take months to a year to reach the same level of productivity as an existing employee. It can hurt the overall morale of your team, and what does it say to the patients you serve if every time they walk into your office, they are greeted by a new face?

The reality is that some employee turnover is just part of running a business. The key is understanding your turnover rate. How many employees have left in the past 2-3 years? Why are they no longer working in your office? Conducting

exit interviews with your employees is an excellent opportunity to get feedback about their time in your practice. Don't take it personally. Be open to the idea that some changes may need to be made to prevent future employees from leaving. (Boyer, 2018)

When it comes to hiring new employees, it is essential to take your time in selecting the right candidate for your office. I used to place a lot of stock in hiring employees with the right skills, but after 34 years in practice, I learned that skills could be taught, but having the right attitude and personality, not so much!

Now I hire based on character, not on skills alone. The book, *The Ideal Team Player* by Patrick Lencioni (a favorite author in our office), discusses the three virtues that make some people better team players than others. It provides tools for identifying, hiring, and developing team players for any business. His website even offers free tools and resources for interviewing new employees based on these virtues, evaluating your current employees, and how to mentor your team in areas where they may be lacking. (The Table Group, 2016).

The three virtues for the ideal team player are:

#### Humble

Ideal team players lack excessive ego or concerns about status. They quickly point out the contributions of others, share credit, and emphasize team over self.

#### Hungry

Ideal team players are always looking for more: more to do, more to learn, more responsibility. They never have to be pushed to work harder and are self-motivated and diligent. They are always thinking ahead to the next step and next opportunity.

#### **Smart**

Ideal team players have common sense when it comes to people. They tend to know what is happening in a group situation and know how to deal with others effectively. They have good judgment and intuition and understand the impact of their words and actions.

The combination of these attributes will improve your ability to develop a highly productive team for your practice. But let me caution you. The lack of even one attribute in a candi-

date can make teamwork difficult or eliminate it altogether. In my opinion, a lack of teamwork in my office is worse than being short staffed. Establishing a culture of teamwork in your office won't eliminate turnover in your practice, but it will help you to retain employees longer, and avoid potential problems when employees leave the practice.

If you discover during your exit interviews that there are issues that need to be addressed, don't sweep them under the rug. Resolving them quickly can help to reduce additional employee turnover in the future. Even if employee turnover in your office is not currently an issue, I encourage you to pick up this book. Having a staff of team players, cultivating and maintaining the team mindset is critical to your practice success and sanity.

Dr. Ray Foxworth is a certified Medical Compliance Specialist and President of ChiroHealthUSA. A practicing Chiropractor, he remains "in the trenches" facing challenges with billing, coding, documentation and compliance. You can contact Dr. Foxworth at 1-888-719-9990, info@chirohealthusa.com or visit the ChiroHealthUSA website www.chirohealthusa.com.



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## **Chiropractic News**

## Drs. Alex and Sara Vidan discuss opportunities, Opioids at Symposium

Alex Vidan, DC and Sara Vidan, DC gave a presentation at the 2019 Logan University Spring Symposium that challenged DCs to reframe obstacles and opportunities.

The Vidans graduated from Logan in 2004. The couple shared some of the challenges they've faced, including the realization early on that trying to appeal to everyone wasn't the best business tactic. "We had to change our perspective on some things and faced a lot of obstacles along the way," Dr. Sara Vidan said. "We realized we were going wide versus deep when we started our practice. We wanted to help anyone with a spine. The problem is that it's really hard to market that and have people understand what you do. We realized we had to find our niche."

The discovery of their niche occurred when Dr. Alex Vidan started experiencing temporomandibular joint dysfunction (TMJD), which causes pain or dysfunction of the jaw and the joints connecting the mandible to the skull. "In our search to find answers, we found a market so huge that we had no idea existed. It's a \$4 billion market," Dr. Sara Vidan said. Between 5 and 12 percent of Americans suffer from TMJD, which tends to be more prevalent in young people and women.

"People are looking for answers but not finding them anywhere," Dr. Sara Vidan said, adding that research from oral care providers says that a diagnosis of TMJD or related orofacial pain conditions should be based on a cervical spine examination, in addition to patient history. In addition to providing an accurate diagnosis, chiropractic can provide effective treatment through jaw adjustments. The problem, however, is that many oral care providers have a poor understanding of chiropractic care and how it can help their patients. The result is that many TMJD sufferers end up undergoing unnecessary oral surgery.

The Vidans are working on changing that, educating oral care providers on chiropractic's role in treating TMJD. Key to their success, they said, has been taking the time to understand the unique philosophy of oral care providers. "You have to know who you're speaking to, otherwise you'll lose out on those opportunities," Dr. Alex Vidan said. "You have

to meet them where they are and show them what we do."

The Vidans challenged Symposium attendees to uncover their own unique niche and start to see obstacles as opportunities. One huge obstacle that is also a huge opportunity for chiropractic is the opioid epidemic. The risks of taking opioids are astronomical: "A study by the Coalition for Safe and Effective Pain Management found that up to 26% of patients prescribed opioids become addicted on the first prescription and up to 80% of heroin users became addicted because of opioids," Dr. Vidan said. "The demand for opioids is based on a misconception that pain can be helped with a pill. As chiropractors, we know that's not true. You heal the body, not just cover up symptoms with a pill."

The opioid epidemic has resulted in growing support for chiropractic from the insurance and medical fields. Actuaries hired by UnitedHealthcare recommended chiropractic and other conservative treatment be given as a first line of defense against chronic pain, from a purely financial standpoint. "They want to find a way for doctors to automatically refer their patients to chiropractors," Dr. Vidan said. "They see us as the answer and want to waive copays and deductibles—even doing that, chiropractic can save insurance companies huge amounts of money," Dr. Alex Vidan said.

The medical field is also more widely endorsing chiropractic. The Institute of Medicine, the FDA and the CDC all now recommend non-pharmacological approaches to chronic pain treatment. Harvard and Yale have also recommended chiropractic for chronic pain treatment.



Vidan Family Chiropractic in Saint Louis, MO.

#### **ICA celebrates historic 93rd Annual Meeting**

The International Chiropractors Association (ICA) celebrated its 93rd Annual Meeting over the weekend of April 11-13, 2019, on the campus of Logan University in Chesterfield, Missouri. The ICA's Annual business session drew a large global contingent of representatives, including Board members, members of the ICA Representative Assembly and a record number of Student ICA chapters. The ICA leadership focused the meeting on the association's programs, policies and global development plans in a series of intensive planning sessions.

Among the highlights of the 93rd Annual Meeting was the announcement of a ten year cooperation agreement between the ICA and King Koil China that will provide for an estimated \$3.5 million for the development of chiropractic in the People's Republic of China, a nation of over 1.3 billion people. Included in this new series of initiatives is a continuation of the ICA's Ambassador Program through which ICA Doctors of Chiropractic (DC) tour all sections of China educating the media, public policy makers, other health professionals and the public on the science, art and philosophy of chiropractic. To date, more than two dozen ICA DCs have travelled throughout China in two- and three-week scheduled tours, presenting ICA and chiropractic to an eager and open-minded public. For more than fifty years the ICA has partnered with King Koil Sleep Systems to design and educate the public on the importance of high quality, spine friendly mattresses which are now available in more than sixty countries.

ICA's democratically elected leadership reviewed the association's legislative goals and reaffirmed its commitment to federal legislation to expand coverage under the Medicare program to include x-rays and exams and also provide for the ability of Medicare beneficiaries to privately contract with doctors of chiropractic in the same manner they can with doctors of medicine, osteopathy, dental surgery, dental medicine, podiatric medicine and optometry.

ICA's leadership placed a major focus during its 2019 deliberations to plans and initiatives to defend chiropractic practice rights, including x-ray privileges and chiropractic care for patients of all ages and to maintain the subluxation focus of chiropractic science and practice worldwide and authorized the filing of a formal complaint with the World Federation of Chiropractic.

The 93rd Annual Meeting also marked a significant leadership transition as the association welcomed new officers including Dr. Stephen Welsh of Roswell, Georgia who began



Dr. Stephen Welsh of Roswell, Georgia begins a two-year term as ICA President.

a two-year term as ICA President. Dr. Selina Sigafoose-Jackson from York, Pennsylvania was sworn in as ICA Vice President and Dr. Jon Stucky if Hyrum, Utah was installed as ICA Secretary-Treasurer.

Dr. Hugo V. Gibson of Lee's Summit, Missouri was named the 2019 ICA Chiropractor of the Year, ICA's highest honor.

"ICA's 2019 Annual Meeting was a high energy, positive and exciting gathering of world leaders who have selflessly stepped forward to serve chiropractic," said ICA's new president Dr. Stephen Welsh. "I look forward to working in close cooperation with this growing group of dedicated leaders to serve our profession and doctors of chiropractic, worldwide, always anchored in ICA's vision and values."

#### Ambassador Program to promote Chiropractic in China announced

The International Chiropractors Association (ICA) has opened the application process for ICA members to represent the ICA and the chiropractic profession in an extensive educational and public relations Ambassador Program in China. The objective is to share the science, art, and philosophy of chiropractic with the 1.4 billion people in China and to fulfill the mission of promoting chiropractic throughout the world.

Key information for interested ICA chiropractors to consider:

- The next tours begin in June, starting on June 7 and June
   14
- A minimum commitment of 15 days is required, longer tours are possible depending on the routes.
- These tours are intense, demanding, and require extensive physical and intellectual exertion. You need to be able and willing to put in long hours and endure extensive in-country travel.
- A China Visa is required. The application must be completed, signed, and an original copy submitted well in advance of travel along with color passport photos that comply with the specific requirements established by the China Visa Office.
- Coach Airfare is Paid by King Koil Shanghai. Roundtrip coach airfare from your point of departure to the designated arrival city in China and return.

  Continued on next page

## **Chiropractic News**

#### Continued from last page

**Honorarium Available**. Selected ICA Ambassadors will be eligible for an honorarium that is intended to cover the costs and expenses incurred during your absence from your practice.

Instructions for June 2019 Trip Applications: If you have a serious interest in being considered for the upcoming June 2019 tour, we ask that complete the <u>program application</u> and return it to the ICA office via email at <u>bvanegmond@chiropractic.org</u> by May 13, 2019. Applications received after this date will be considered for future trips.

Stephen Welsh, ICA President stated, "I am excited about opening our Ambassadors program opportunity to our full membership. This is a unique opportunity for our chiropractors to expand their own world view and life experiences while sharing our world vision for chiropractic."

The application form is available here.

## New research: sleep reduces cardiovascular disease risk

Getting enough sleep is key to good health, and studies have shown that insufficient sleep increases the risk of serious problems, including cardiovascular disease. Now Massachusetts General Hospital (MGH) investigators have discovered one way that sleep protects against the buildup of arterial plaques called atherosclerosis. In their paper receiving advance online publication in *Nature*, they describe the mechanism by which insufficient sleep increases production of inflammatory white blood cells known to be major contributors to atherosclerosis.



"We have discovered that sleep helps to regulate the production in the bone marrow of inflammatory cells and the health of blood vessels and that, conversely, sleep disruption breaks down control of inflammatory cell production, leading to more inflammation and more heart disease," says Filip Swirski, PhD, of the MGH Center for Systems Biology, senior author of the Nature paper. "We also have identified how a hormone in the brain known to control wakefulness controls processes in the bone marrow and protects against cardiovascular disease."

To investigate how insufficient sleep increases atherosclerosis, Swirski's team subjected mice genetically programmed to develop atheroslcerosis to repeated interruptions of their sleep, similar to the experience of someone constantly waking up because of noise or discomfort. While there were no changes in weight, cholesterol levels or glucose tolerance in the sleep-deprived mice, compared to animals from the same strain allowed to sleep normally, those subjected to sleep fragmentation developed larger arterial plaques and had higher levels of monocytes and neutrophils -- inflammatory cells that contribute to atherosclerosis -- in their blood vessels.

Further experiments revealed that the sleep-deprived mice had a nearly two-fold increase in the production in their bone marrow of stem cells that give rise to white blood cells. A hormone called hypocretin, produced in the brain structure called the hypothalamus and known to have a role in the regulation of sleep, was found to play an unexpected role in controlling white blood cell production. While normally produced at high levels when animals — including humans — are awake, hypocretin levels were significantly reduced in the sleep-deprived mice.

The MGH team found that hypocretin regulates production of white blood cells through interaction with neutrophil progenitors in the bone marrow. Neutrophils, they discovered, induce monocyte production through release of a factor called CSF-1, and experiments with mice lacking the gene for hypocretin revealed that the hormone controls CSF-1 expression, monocyte production and the development of arterial plaques. In sleep-deprived animals, the drop in hypocretin led to increased CSF-1 production by neutrophils, elevated monocyte production and accelerated atherosclerosis.

"This is a direct demonstration that hypocretin is also an important inflammatory mediator," says Swirski, an associate professor of Radiology at Harvard Medical School. "We now need to study this pathway in humans, explore additional mechanisms by which proper sleep maintains vascular health and further explore this newly identified neuro-immune axis."

Click here for additional information on this research.

#### Eggs okay, new study says

A new study from the University of Eastern Finland shows that a moderately high intake of dietary cholesterol or consumption of up to one egg per day is not associated with an elevated risk of stroke. Furthermore, no association was found in carriers of the APOE4 phenotype, which affects cholesterol metabolism and is remarkably common among the Finnish population. The findings were published in the *American Journal of Clinical Nutrition*.

Findings from earlier studies addressing the association of dietary cholesterol or egg intake with the risk of stroke have been contradictory. Some studies have found an association between high dietary cholesterol intake and an increased risk of stroke, while others have associated the consumption of eggs, which are high in cholesterol, with a reduced risk of stroke. For most people, dietary cholesterol plays a very small role in affecting their serum cholesterol levels. However, in carriers of the apolipoprotein E phenotype 4 -- which significantly impacts cholesterol metabolism -- the effect of dietary cholesterol on serum cholesterol levels is greater. In Finland, the prevalence of APOE4, which is a hereditary variant, is exceptionally high, with approximately one third of the population presenting as carriers. Yet, research data on the association between a high intake of dietary cholesterol and the risk of stroke in this population group has not been available until now.

The dietary habits of 1,950 men aged between 42 and 60 years with no baseline diagnosis of a cardiovascular disease were assessed at the onset the Kuopio Ischaemic Heart Disease Risk Factor Study, KIHD, in 1984-1989 at the University of Eastern Finland. APOE phenotype data were available for 1,015 of the men participating in the study. Of those, 32% were known carriers of APOE4.

During a follow-up of 21 years, 217 men were diagnosed with stroke. The study found that neither dietary cholesterol nor egg consumption was associated with the risk of stroke -- not even in carriers of APOE4. The findings suggest that moderate cholesterol intake or daily egg consumption are

not associated with the risk of stroke, even in persons who are genetically predisposed to a greater effect of dietary cholesterol on serum cholesterol levels. In the highest control group, the study participants had an average daily dietary cholesterol intake of 520 mg and they consumed an average of one egg per day, which means that the findings cannot be generalised beyond these levels. One egg contains approximately 200 mg of cholesterol. In this study, about a fourth of the total dietary cholesterol consumed came from eggs.

Click here for additional information on this study.

## New technology is bringing the power of augmented reality into clinical practice

The system, called ProjectDR, allows medical images such as CT scans and MRI data to be displayed directly on a patient's body in a way that moves as the patient does. The technology includes a motion-tracking system using infrared cameras and markers on the patient's body, as well as a projector to display the images. But the really difficult part is having the image track properly on the patient's body even as they shift and move. The solution: custom software that gets all of the components working together.

"We wanted to create a system that would show clinicians a patient's internal anatomy within the context of the body," explained Ian Watts, a computing science graduate student and the developer of ProjectDR. "There are lots of applications for this technology, including in teaching, physiotherapy, laparoscopic surgery and even surgical planning," said Watts, who developed the technology with fellow graduate student Michael Fiest.

"Soon, we'll deploy ProjectDR in an operating room in a surgical simulation laboratory to test the pros and cons in real-life surgical applications," said Boulanger.

"We are also doing pilot studies to test the usability of the system for teaching chiropractic and physical therapy procedures." added Greg Kawchuk, a co-supervisor on the project from the Faculty of Rehabilitation Medicine.

ProjectDR also has the capacity to present segmented images — for example, only the lungs or only the blood vessels — depending on what a clinician is interested in seeing.

Watts is working on refining ProjectDR to improve the system's automatic calibration and to add components such as depth sensors. The next steps are testing the program's viability in a clinical setting, explained Pierre Boulanger, professor in the Department of Computing Science.

## **Chiropractic College News**

#### **Logan supports Arthritis Foundation's mission**

Arthritis—a disease that impacts more than 50 million Americans. Every year, the number of children and adults affected by arthritis grows, making it the No. 1 cause of disability in our country. While there is currently no cure for most kinds of arthritis, there are many available therapies, including chiropractic care, to help treat and manage the pain associated with the disease.

Logan Professor D. Robert Kuhn, DC, DACBR, ART®, says eliminating or reducing challenges to a person's system is important. "Eating less pro-inflammatory food and drink, getting plenty of sleep, and staying active are all helpful."

Adding nutritional support specifically rich in calcium, magnesium and trace minerals can also provide relief, says Logan Professor Brian Snyder, DC. This, he said, with the addition of lifestyle changes that keep patients moving through normal daily activities as well as low impact exercise, all aid in pain management.

Dr. Kuhn said for many who experience rheumatoid arthritis (RA), which causes inflammation in the joints, chiropractic care can be used to treat the affected joints with gentle mobilizing techniques during remission periods. He notes that direct treatment of the affected joints during periods of exacerbation should be avoided.

Visit the <u>Arthritis Foundation's website</u> for find more information about additional treatment options.

#### **NYCC Spring 2019 Commencement Ceremony**

New York Chiropractic College will host the Spring 2019 Commencement Ceremony on Saturday, August 3, 2019 at 9:30 a.m. The ceremony will be held on the campus of New York Chiropractic College in the Standard Process Athletic Center. Doors open to the public at 8:30 a.m. and graduates should arrive no later than 8:15 a.m. Tickets are not required and seating is unlimited and on a first-come, first-served basis.

After the ceremony, there is a reception for graduates, guests, faculty, and staff immediately following.

The Commencement Ceremony will be live-streamed on our

website (<u>www.nycc.edu</u>). The link to the ceremony will go live by 9:55 a.m. on August 3, 2019. On the NYCC home page a link will be posted beneath "News and Events" labeled NYCC Spring 2019 Commencement Livestream. It is hoped this will allow graduates to have family and friends who cannot be here enjoy this wonderful event and celebrate this outstanding achievement.

An important rehearsal for candidates will be held at 4 p.m. on Friday, August 2, 2019 in the Athletic Center gymnasium. Rehearsal will take approximately one hour. In addition to rehearsal, you will be picking up your caps and gowns at this time. All participating candidates are required to attend.

For further details, please call the Registrar's Office at 315-568-3061 or email Sonya Smith at <a href="mailto:ssmith@nycc.edu">ssmith@nycc.edu</a>.

#### UWS alumna named first full-time Chiropractic Physician at Portland VA Medical Center

University of Western States (UWS) alumna Samantha Stolzel, DC (class of '13) has been hired as the first full-time chiropractic physician within the Portland VA Medical Center.

"Being hired on as the first full-time chiropractic physician within the Portland VA Medical Center is an extreme honor," said Dr. Stolzel. "Offering expanded integrated health care services in the VA will not only help our veterans, it will in-



(Pictured L-R): Vern Saboe, DC, (OCA Director of Governmental Affairs), Joseph Pfeifer, DC (UWS Chief Clinical Excellence Officer), Congressman Kurt Schrader (U.S. House of Representatives, Oregon's 5th District), Samantha Stolzel, DC (Portland VA Medical Center), John Kitzhaber (former Governor of Oregon), Joseph Brimhall, DC (UWS President)

crease the visibility and strengthen the profession for future chiropractic physicians. I feel privileged to be able to treat our honored veterans."

"I believe University of Western States provided me the integrated education that will allow me to be successful in this position," Dr. Stolzel added.

With a chiropractic physician serving as part of the health care team at the Portland VA Medical Center, veterans will experience a higher degree of integrated services. Chiropractic care was first offered in a small number of VA medical centers in 2004. The initiation of this service was authorized by federal legislation in 2001 (section 204 of Public Law 107-135, Department of Veterans Affairs Health Care Programs Enhancement Act of 2001).

Due to the successful integration of chiropractic services, beneficial clinical outcomes, increased demand by veterans and ongoing support of the VA, the profession's involvement in the VA has continued to expand. The VA now employs more than 100 chiropractic physicians in more than 70 facilities around the country. UWS maintains academic affiliation agreements with eight VA facilities. Those agreements support the university's ability to have select chiropractic students engage in the delivery of clinical services to veterans under the supervision and guidance of VA staff chiropractic physicians.

#### **Pragmatic Chiropractic Business Models seminar**

Southern California University of Health Sciences is hosting a free panel discussion on pragmatic chiropractic business models. The event will include a catered breakfast, and is free to attend. It will be held June 20, 2019 at the Long Beach Hilton, 701 West Ocean Blvd., in Long Beach, CA.

The goal is to provide SCU students, alumni, and friends with updated information on the best business practices, with a primary focus on Doctors of Chiropractic.

<u>Click here</u> to register for this free event, or to get more information.

#### **Attend a NYCC Open House event**

New York Chiropractic College has announced two dates for upcoming Open House events. Those dates are Saturday, June 8, 2019 and Saturday, October 5, 2019.

The event will include both student and faculty panels, a technique demonstration, a presentation of existing clinical opportunities for NYCC students and tours of the campus. A free buffet lunch will also be served.

<u>Click here</u> to register or obtain more information.

## SCU mourns death of Board of Regents member, Arturo "Art" Escobedo

SCU is saddened to announce the passing of Board of Regents Member, Arturo "Art" Escobedo. Art passed away on Wednesday, April 24, 2019.



Dr. John Scaringe, President and CEO of SCU, said, "It's with great sadness that I announce the passing of our friend and

Board of Regents Member, Art Escobedo. Art has served as a Board of Regents Member for four years and we are thankful for his outstanding leadership, friendship, guidance, and wisdom. He will be greatly missed by the SCU family, and his community. Art continuously upheld the SCU values of excellence, leadership, caring, commitment, and integrity. We are especially thankful for the passion he carried in his heart for SCU and towards our vision of transforming health and healthcare education."

Art enjoyed a successful career as a skilled compliance and fraud-investigation professional. He dedicated himself to giving back to the community and fighting for equal rights for all citizens. As part of his contribution to the community, Mr. Ecobedo co-founded and was President of the South East Los Angeles County (SELAC) Educational Foundation. SELAC 's sole purpose is to enhance the educational experiences of children. Art was honored by former President Jimmy Carter by being appointed to the President's Committee on the Employment of the Disabled, where he served for two years. Art was also honored by California Governor, Jerry Brown, Jr. by being appointed to the Department of Rehabilitation State Advisory Committee as Delegate-at-Large. He served in this capacity for two years.

#### **Showcase Sherman College weekend July 26-27**

This weekend is designed to ignite your passion to help your community in a growing and rewarding career as a Doctor of Chiropractic. Meet current students, chat with faculty, and explore the Upstate of South Carolina.

This is a quarterly event (July 26-27 and November 15-16) exhibiting all that Sherman has to offer. Bring a transcript for a free evaluation or an application. Out of town (over 200

Continued on next page

## **Chiropractic College News**

#### Continued from last page

miles), prospective students get complimentary accommodations and can receive travel reimbursement (restrictions apply). <u>Click here</u> to register or for more information.

## Palmer College of Chiropractic receives \$100,000 grant for new Learning Commons

A \$100,000 grant awarded to Palmer College of Chiropractic by the Regional Development Authority (RDA) will support campus enhancement plans that will help ensure current and future students have a top-of-the-line learning experience. One of the first major projects to be undertaken is a Learning Commons which will provide students with a state-of-the-art learning and study environment.

"Chiropractic has become an integral part of health-care teams, causing significant job growth for the profession and an increased demand for high-quality chiropractic education," said Dennis Marchiori, D.C., Ph.D., chancellor and CEO, Palmer College of Chiropractic. "This grant will allow

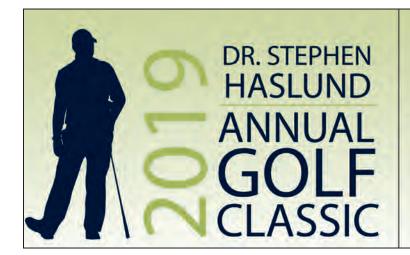
Palmer to continue to carry out its tradition of delivering the leading educational experience for future chiropractors."

Palmer conservatively adds \$156 million to the Quad Cities local economy each year. Over the past decade, Palmer College has invested more than \$50 million in capital improvements on its main campus in Davenport, Iowa. Palmer is focused on student success and has additional capital improvement projects planned over the next five years that will ensure Palmer graduates can change lives as successful chiropractors all over the world.

More than 900 students are enrolled at Palmer's main campus, and with planned campus enhancement projects the College estimates that enrollment will increase to 1,200 students in the coming years. Palmer College and Palmer Chiropractic Clinics contribute to the overall health and well-being in the Quad Cities by providing care to more than 10,000 patients with \$3 million in pro-bono care to active military and veterans, their families and low-income residents each year. More than 26,000 Scott County residents and 50 million Americans visit a chiropractor annually.

#### Join Texas Chiropractic College July 18, 2019 for the Dr. Stephen Haslund Memorial Annual Golf Classic!

The Dr. Stephen Haslund Memorial Golf Classic is named in memory of Dr. Stephen Haslund, a long time administrator, and friend of Texas Chiropractic College. In continuing Dr. Haslund's legacy of helping students, the proceeds from this golf tournament will go to the Texas Chiropractic College Scholarship Fund. Each year, TCC gives over \$60,000 in scholarships for both new and current students. These scholarships reward outstanding academic achievement, service to the community, professional and chiropractic research. Your support is invaluable to the sustainability of this program. Click here for more info.



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This healthy living information is provided by your Doctor of Chiropractic and the Idaho Association of Chiropractic Physicians (IACP) .



Water is the second most popular beverage in the U.S. after soft drinks. This is a scary stat, since sugary soda is a huge health hazard, upping the risk of obesity, stroke, and other heart problems. However, these dangers can be avoided if people choose to drink water, which doesn't have negative side effects. So help put the sugary stuff to the side and make water the number one drink of choice. The benefits really are endless. (Just take a look!)

**Fluid balance:** Roughly 60 percent of the body is made of water. Drinking enough H2O maintains the body's fluid balance, which helps transport nutrients in the body, regulate body temperature, digest food, and more.

**Pain prevention:** A little water can really go a long way. Aching joints and muscle cramps and strains can all occur if the body is dehydrated.

**Weight loss:** Numerous studies have found a connection between water consumption and losing a few pounds. The secret reason? Water simply helps people feel full, and as a result consume fewer calories.

**Muscle fuel:** Sweating at the gym causes muscles to lose water. And when the muscles don't have enough water, they get tired. So for extra energy, try drinking water to push through that final set of squats.

**Clearer skin:** Certain toxins in the body can cause the skin to inflame, which results in clogged pores and acne. While science saying water makes the skin wrinkle free is contradictory, water does flush out these toxins and can reduce the risk of pimples.

**Kidney function:** Our kidneys process 200 quarts of blood daily, sifting out waste and transporting urine to the bladder. Yet, kidneys need enough fluids to clear away what we don't need in the body. Let's drink to that!

**Productivity boost:** In order to really focus, a glass of water could help people concentrate and stay refreshed and alert.

**Fatigue buster:** Move over coffee—water can help fight those tired eyes too . One of the most common symptoms of dehydration is tiredness. Just another reason to go for the big gulp! (Not the 7-11 kind.)

**Hangover help:** If booze has got the best of you, help a hangover with a glass of water to hydrate the body and stop that pounding headache.



This healthy living information is provided by your Doctor of Chiropractic and the Idaho Association of Chiropractic Physicians (IACP).

## The Idaho Association of Chiropractic Physicians

#### The IACP News

#### **Display Advertising Policy, Rates and Information**

The Idaho Association of Chiropractic Physician's *IACP News* is a full-color digital newsletter, published monthly and distributed to member doctors of chiropractic across Idaho as well as out-of-state members and student members.

#### **Advertising deadline**

Artwork is needed by the 15<sup>th</sup> of any month for publication in the following month's newsletter. The *IACP News* is published the last week of every month.

#### **Ad Sizes and Rates**

IACP reserves the right to determine position and placement of all advertising. Special positioning may be purchased for an additional 20% if space is available. Inside Cover and Back Cover are charged additional 20% for special positioning. **15% off these rates for IACP Members.** 

Rates are for full color ads **per insertion**. Ads published under a multi-run contract can be changed for each issue at no additional cost. Flash animation (.swf files), animations (.gif format) and video clips can be added to any ad. There is no extra charge for video clips or multi-media in ads unless "assembly" of the ad is required. Some file size limitations apply. For details contact Steve at C&S Publishing CandSpublishing@gmail.com or call (916) 729-5432. Email camera-ready ads in high resolution Adobe Acrobat (.pdf) format to: CandSpublishing@gmail.com. Ad creation and graphic design services are available through C&S Publishing at no additional cost.

Ad Type	Ad Size	1 run	3 runs	6 runs	12 runs
Full page (bleed)	8 5/8" wide by 11 1/4" tall	\$450	\$414	\$378	\$330
Full page (boxed)	8" wide by 9 3/4" tall	\$450	\$414	\$378	\$330
Half page	8" wide by 4 3/4" tall	\$267	\$264	\$224	\$190
One Third (V)	2 3/8" wide by 9 3/4" tall	\$190	\$174	\$159	\$140
One Third (H)	8" wide by 3 1/8" tall	\$190	\$174	\$159	\$140
Quarter Page	3 7/8" wide by 4 3/4" tall	\$160	\$146	\$134	\$115
One Sixth	3 5/8" wide by 2 7/8" tall	\$105	\$97	\$88	\$75

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