

YOUR LOCAL SOURCE FOR NATURAL HEALTH AND WELLNESS!

What's in this Issue

## The Importance of Water

by Karminski Chiropractic

At first glance a few key statistics related to water intake and composition are important to note: the human body contains roughly 11 gallons of water broken down into these fractional parts: blood is 85% water, muscle is 80% water, brain is 75% water and bones are 25% water.

With the value and percentage of water making up nearly 66% of the human body it plays a tremendously important role in normal physiological function(s). This is largely why dehydration, when present, can lead to a number of critical problems including: migraines, constipation and even kidney stones. (1) Lack of water in the body can also take a toll on the health of your BRAIN, affecting mood and overall cognitive and emotional function. When dehydrated a person may be more prone to feelings of fatigue, anxiety and irritability.

### The Importance of Water P1-3

Take a look at what we've been up to, and what's in store for the new year!

### Opioids vs Natural Pain Relief P4-6

Making healthy food choices starts at the grocery store, know what type of products you are buying!

### Help us grow in 2018 P6

Let's define what it means to be healthy and make clear decisions on how to get there.

### Dehydration Shrinks Your Brain

About three-quarters of your brain is water and when the body is dehydrated your brain volume actually decreases. It is this shrinking process to which medical researchers attribute dehydration headaches. Mild or temporary dehydration can alter the brain's function and impact mood as shown in a 2013 British Medical Journal study.(2) 20 healthy women in their mid-20s were fluid deprived for 24 hours. While no clinical pathology was observed in the biological parameters such as urine, blood and saliva, thirst and heart rate did increase and urine output was drastically reduced. As expected, the urine also becomes darker in color.



The authors of the study noted this, about mood effects in their subjects:

"The significant effects of (fluid deprivation) on mood included decreased alertness and increased sleepiness, fatigue and confusion. The most consistent effects of mild dehydration on mood are on sleep/wake parameters..."(2)

The good news here is that within 20 minutes of drinking some water, effects such as those detailed above are reversed. Dehydration-induced headaches are also rapidly alleviated once you rehydrate. Interestingly, cold water absorbs 20% faster than room temperature water, so to increase the speed of recuperation it would seem prudent to have chilled water for this recovery process.

A study from Harvard University found more than half of American children are dehydrated, which can have serious consequences for their health and academic performance (3, 4, 5). About a quarter of kids in the U.S. don't drink enough water, daily. Boys were 75% more likely to be low in hydration status as compared to girls. This apparent link shows that boys tended to select more sugary beverages than girls did.(6)

### Impaired Driving Similar to Being Fatigued or Intoxicated

When your cognitive functions take a hit and your ability to concentrate declines, there can be serious problems that result when a driver takes the wheel. Research from Loughborough University shows drivers that were dehydrated made twice the amount of errors during a two-hour drive compared to hydrated drivers, similar to driving drunk.(7,8) For these tests, hydrated drivers drank 6.7 ounces of water every hour, compared to dehydrated drivers who received only 25 mL per hour.



As reported by the Daily Mail: During normal hydration tests, there were 47 driving errors. That number rose to 101 when the men were dehydrated – the same mistake rate as when drivers were either sleep deprived or at the drink-drive limit. The researchers...think dehydration leads to reduced brain activity as well as a drop in alertness and short-term memory..."(9)

### The WHOLE BODY suffers when you're dehydrated

Dehydration is typically rated as mild, moderate or severe depending upon percentage of water loss the body experiences. There are quite a number of blood markers contained within our normal testing that can highlight this for you and your doctor. These include but are not limited to: RBC value variations (MCH, MCHC), electrolyte imbalances (Sodium, Potassium, etc.) and even changes in kidney panel values (BUN, Creatinine, etc.).

### Other ways to evaluate your body for dehydration include:

Urinary frequency – most people urinate between 4-7 times per day, depending on bladder size and amount of urine for release. If you urinate less than 4 times or not at all then you need to drink more water.

Urine color - this is one of the easiest ways to determine your hydration status. The color of the urine is determined by concentration of waste in the fluid. The more water you have in your body for your kidneys to mix with waste products, the lighter in color your urine will be. You should be drinking enough water for your urine to be a light yellow color. Darker colors can mean that the kidneys are being forced to work too hard. While not a common finding among sedentary citizens, over-hydration can become a problem especially in endurance athletes if they consume way too much water. This situation can also create additional stress on the kidneys and other fluid regulatory pathways in their system.

Odor – urine should be nearly odorless. The scent of the urine will be dependent on a few factors including hydration status, foods eaten in the past 24 hours and whether or not an infection is present. The more concentrated the urine is the stronger your urine will smell of ammonia.

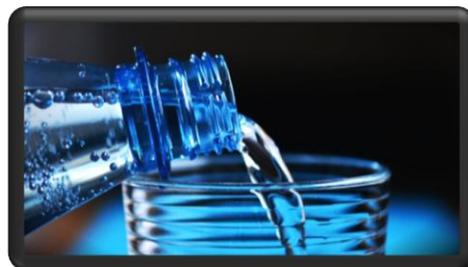
An important note here is that medications and UTIs (urinary tract infections) can also change the color and odor of the urine. If you have an infection, urine may appear cloudy and/or tinged with blood. An abnormally sweet odor from your urine may indicate that you have a high level of glucose in your urine from an uncontrolled diabetic state. Other conditions that affect urine's odor can include liver and gall bladder disorders. Therefore, having an in-office dipstick urine test done annually is suggested for anyone interested in maintaining a watchful eye on their health.

How much water is recommended? There are various ways to calculate this daily intake to the ounce. One that we use is this: drink 32 ounces of clean, filtered (reverse osmosis) water for every 50 pounds of body weight per day. Do not exceed 96 ounces per day, regardless of body weight. Athletes and those working outside during summer temperatures may require more daily water to satisfy urine color requirements.

Staying on top of dehydration can prevent unnecessary driving accidents, brain imbalances and even the need for hospitalization. Getting your blood and urine analyzed on an annual or semi-annual basis can also allow you to stave off major health problems before they start. Contact us if you'd like to learn more about what our testing (through board certified clinical nutritionists) can do for you...

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# Opioids vs Natural Pain Relief

by Karminski Chiropractic

*"Overall, the results indicate that the medical profession is doing a poor job of appropriately prescribing opioid painkillers. Even though the rates have leveled off, we have a long way to go in improving medical care so these are not as overprescribed as they are currently ... [T]here are a lot of leftover medications. In many cases, physicians could write smaller prescriptions, or avoid them completely for those who benefit from ibuprofen or acetaminophen."*

– Dr. Wilson Compton, Deputy Director of the National Institute on Drug Abuse (1)



Prescription opioids are medications that are typically prescribed by dentists, family doctors and hospitals as a response to acute pain. The medication is only supposed to be used for a short period of time, but studies have found those who are prescribed opioids can take them from 2 weeks to 10 years or more. Opioids are chemically similar to endorphins, which is a substance our body makes naturally to relieve pain. Opioids can be made naturally from plants, be a blend of natural and synthetic compounds or completely synthetic.

## How do Opioids affect the Brain?

Opioids attach themselves to receptors in the brain. The chemical structure of opioids mimics our natural neurotransmitter. With the two being very similar, the body is unfortunately fooled into locking the opioid into a receptor site which activates the nerve cells. Once the opioid is attached into place, the body starts to experience what is known as the "Opioid effect". This is where the body starts to slow down breathing rates, reduces or blocks pain and creates an overall calming effect. <sup>(7)</sup>

Opioids also target our body's reward system. Opioids open the flood gates and overwhelm the circuit with dopamine. Dopamine is a neurotransmitter located in parts of the brain that help with emotion, cogitation, motivation, and feelings of pleasure. This constant overstimulation of our rewarding system leads to an increase of misuse and addiction to opioid medication. <sup>(7)</sup> An article posted in the CBS news in June 2017 stated the alarming fact that opioid overdoses are the leading cause of deaths in Americans under the age of 50. <sup>(8)</sup>

## Are there side effects of taking Opioids?

Some of the most common side effects of taking opioids include: constipation, itch, low blood pressure, excessive constriction of the pupil of the eye (miosis), nausea, sedation, urinary retention and suppressed respiration.

## Natural Non-Drug Solutions for Pain Relief

### Reduce Sugar in the Daily Diet

Sugar consumption has a direct correlation to inflammation. A rise in blood sugar causes a cascade of events which includes the release of inflammatory chemicals. There are multiple inflammatory chemicals released, including histamines, prostaglandins and interleukins.

These inflammatory chemicals cause an internal response that requires the immune system to step in and respond to the cleanup process. Elevated levels of inflammation dramatically accelerate degeneration in the body and can lead to a host of cell damaging diseases that greatly reduces longevity. <sup>(2)</sup>

### Consume high quality animal & plant-based Omega-3 fat

Omega-3 fats block the chain of events that cause inflammation and regulate the migration of inflammatory cells and chemicals to the sites of inflammation. Consumption of Omega 3 fats are found in dark green leafy vegetables, flaxseed, walnuts, butternuts, salmon, halibut, tuna, and avocados. By taking the natural route, one is unlikely to experience the side effects of gastro-intestinal or cardiovascular systems mentioned before that are common when taking anti-inflammatory drugs. (3,4)



### Supplement with Curcumin

The anti-inflammatory properties of Curcumin has been shown to help with Osteoarthritis. Curcumin inhibits multiple pro-inflammatory molecules such as cytokines and prostaglandins. The effects of curcumin have been documented in many clinical trials demonstrating its ability to prevent or reduce cellular death and oxidative stress. (9) Clinical trial dosages between 200mg-3,000mg for curcumin have shown benefits depending on the case. It is important to talk to a physician about appropriate dosage per case.

### Importance of Vitamin D

Vitamin D is an important vitamin in the body that helps the absorption of essential vitamins and minerals necessary for overall bone and muscle health. (11) Levels less than 32 ng/mL have been shown to reduce intestinal calcium absorption, reduced bone density, reduced immune system, increased insulin resistance and risk of many types of cancer. Sources of vitamin D include sun exposure, food intake and dietary supplement of Vitamin D3.

### Supplement with Bromelain

Bromelain is an enzyme found in pineapples. Although mostly used as a digestive aid, it has been linked to analgesic properties which have been documented to have influence on pain mediators such as bradykinin. (6) Bromelain accounts for many therapeutic benefits like the treatment of angina pectoris, bronchitis, sinusitis, surgical trauma, and thrombophlebitis, debridement of wounds, and enhanced absorption of drugs, particularly antibiotics. It also relieves osteoarthritis, diarrhea, and various cardiovascular disorders. (5)



### Vitamin C

A study was conducted by Dr. Zollinger et al, in a double blind random study with participants with reflex sympathetic dystrophy post wrist fractures. Vitamin C was given pre-surgery and demonstrated no reports of reflex sympathetic dystrophy. The participants were given a daily dosage of 500mg 2 days prior to surgery and continued with vitamin C 7-week post-surgery.

Vitamin C is considered an anti-oxidant and is needed to manufacture collagen and work with the immune system. Collagen is needed to support the connective tissue, tendons and cartilage. It is also needed to prevent poor wound healing and supports healthy gums. (14)

## What to do now?

It is important to meet with a qualified clinical nutritionist to review your personal health information to determine proper supplements and dietary recommendations. At our practice, we use a complement of diagnostic testing to put together a natural health plan to address your individual needs. Contact our office today to see how we can help!

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## Help us grow in 2018!

by Karminski Chiropractic

This year, one of our goals is to offer our services to other people just like you! Many of our best relationships have come from introductions from our patients. Do you know someone who could benefit from our services?

We would be honored if you would:

- Refer a patient to our office for Chiropractic Care or for a Nutrition Evaluation
- Add a name/email to our online mailing list
- Share this newsletter with a friend!
- Write a Review for our business on facebook / google / yelp

Have any questions? Contact our office today!

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**Yours in Health,**

***Karminski Chiropractic***

