



## BALANCED HEALTH & SPORTS THERAPY

Chiro Physio Massage Acupuncture

### November 2016

#### Eating For Brain Health

By Danielle Deutscher, BA, BN, RN

Very few people would dispute that a healthy diet and lifestyle can aid in the prevention of cardiovascular disease. Yet most of us fear that brain degeneration is inevitable and irreversible as we age and that there is little we can do to prevent brain diseases such as Alzheimer's and dementia. However, this is far from the truth, as current research demonstrates that the most important tool we have to keep the brain functioning at its peak is nutrition. There is compelling evidence showing that the brain has much plasticity, which is greatly affected by our diet and lifestyle choices. By providing your brain with the proper fuel it needs to function optimally, you can not only reduce your risk of degenerative brain disease, but also improve your current cognitive function.

#### Healthy Fats

The brain is the fattiest organ in the human body and is composed of roughly 60 percent fat. Our brains need fat to function optimally. Nourishing the brain with healthy fats restores neurons, boost the production of neurotransmitters, protects against oxidative damage, and helps the brain to heal after traumatic brain injury.

Foods that are packed with healthy fats include avocado, nuts (especially walnuts and almonds), seeds (especially chia, hemp, and flax), extra virgin olive oil, egg yolks, salmon, and unrefined coconut oil. As discussed in the following section, the types of fats that are particularly crucial to brain health are Omega 3 fatty acids, and medium chain triglycerides (MCTs).

Omega 3 fatty acids are present in foods such as chia seeds, flax seeds, salmon, sardines, algal oil (a sustainable, vegetarian source of DHA), flax oil and fish oils. They play a paramount role in optimizing many facets of brain function, including reducing depression, and improving cognition and memory. One recent landmark study found that aging humans who consumed more omega-3s had increased gray matter brain volume and that most new tissue development was observed in the part of the brain associate with happiness. In addition, Omega 3 fatty acids support brain cell structure and increase the production of vital neurotransmitters. They protect against inflammatory and oxidative damage, and thus they exert profound anti-aging effects on brain structure and function.

Medium Chain Triglycerides are highly present in unrefined coconut oil, containing about 60-65% MCTs. (It is also possible to purchase pure MCT oil, although it is harder to find and more expensive than virgin coconut oil). Other sources of MCTs include red palm oil, and butter from grass-fed cows. MCTs are different from other fats in that they are

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#### Upcoming Events

From now until Christmas receive a **FREE** bottle of D-Mulsion 1000, a vitamin D supplement with your next purchase of Douglas Labs Ultra Preventative X Multi-Vitamin

Balanced Health and Sports Therapy's **Annual Christmas Bake Sale and Charity Day** will be on **December 8, 2016**

(all proceeds from the bake sale and treatments will be donated to Right to Play and The Calgary Herald Christmas Fund)

We will be participating in a Calgary Interfaith Food Bank food drive. Any dry goods food donation is greatly appreciated.

Recipes for brain health:



MCTs include red palm oil, and butter from grass-fed cows. MCTs are digested differently by the body than other fats. Instead of storing all MCTs as fat, the liver converts them directly to ketone bodies, which are then available in the bloodstream for use as energy. Ketones are an alternate fuel source for your body when it cannot uptake glucose (as in a fasting state or in neurodegenerative diseases such as Alzheimer's disease). Ketone bodies are very nourishing to brain cells, and have the potential to renew and restore neurons, even after damage has started. In Alzheimer's and many other brain diseases, the neurons in certain areas of the brain are unable to take in glucose, and slowly die off, a process that can happen over decades before symptoms become apparent. However, taking in ketone bodies help the brain cells to stay alive by providing an alternate fuel source. As well, ketones from MCTs have been found to increase the number of mitochondria in brain cells, the so called "energy factories." As an added bonus, MCTs in coconut oil are also supportive of our gut environment and have anti-fungal, anti-bacterial and anti-inflammatory properties.

### Other nutritional powerhouses for brain health:

#### Blueberries

Contain powerful antioxidants that reduce inflammation and oxidative stress on brain. Help improve memory and cognitive skills. Research has supported the use of blueberries in the prevention and potential treatment of cognitive deficits associated with degenerative brain diseases.

#### Curcumin (an active component of the spice turmeric)

Turns on the parts of our DNA that help reduce inflammation. Curcumin shows promise in the treatment of Alzheimer's disease.

#### Vitamin D3

Stimulates the immune system in a way that helps clear the brain of amyloid beta, a toxic protein-like compound that accumulates in the brains of Alzheimer's patients.

#### Egg yolks (preferably from free-run chickens)

Rich in choline, the precursor for acetylcholine, one of the most fundamental neurotransmitters. Support brain cell membranes, and very important in supporting a fetus's developing nervous system during pregnancy.

### Foods that are detrimental to brain health:

#### Sugar and refined carbohydrates

Consuming high amounts of sugar and high GI carbs such as white flour and white rice can cause inflammation that encroaches on the brain, as well as neurological deficits. A 2012 study published in the *Journal of Physiology* found that fructose significantly impaired cognitive abilities and memory functions in rats. High fructose corn syrup, which is present in many processed foods, is particularly toxic to the brain.

#### Trans fats and hydrogenated vegetable oils

Synthetic fats that have been used in the food industry since the 1950s. Consumption of these fats not only raises the risk of cardiovascular disease but can also lead to increased inflammation in the brain. A 2012 study published in *Neurology* found that a high intake of trans fats is linked to significant brain shrinkage.

#### Gluten



### Brain Boosting Bonbons

1/2 cup virgin coconut oil

1/2 cup almond butter

1/4 cup maple syrup

1/8 cup raw cacao or cocoa powder

pinch of sea salt

Optional add-ins:

Raw cacao nibs or puffed rice cereal or toasted slivered almonds/pumpkin seeds

Melt and mix everything (except add-ins) over low heat in a small saucepan. Remove the pan from heat and stir in your add-ins if desired. Spoon into mini muffin cup liners and put in the freezer to store. (These melt easily at room temperature so I like eating them out of the freezer or fridge). Makes about 20. Mmmmm!

### Chia Pudding with



This is another easy recipe that is packed with healthy ingredients for the brain, including chia seeds, virgin coconut oil and blueberries, as well as ample amounts of calcium, protein and fiber. We often enjoy it as a nourishing breakfast that can be prepared the night before. When soaked overnight, the chia seeds expand, creating a thick pudding similar in texture to tapioca.

3 cups unsweetened almond or coconut milk

(You can also make your own nut milk by blending 1 cup

## Gluten

A naturally occurring protein found in cereal grains, particularly wheat. Gluten has been shown to increase levels of the protein zonulin in the gut leading to leaky gut syndrome. This gut permeability allows undigested food proteins and bacterial endotoxins to pass into the blood stream, activating an inflammatory-immune response in the body. Elevated zonulin levels in the gut have been linked to elevated zonulin levels in the brain. This activates the brain's immune system—glial cells—which can then cause inflammatory cascades throughout the brain.

## Processed Foods

Often contain preservatives, additives, dyes and artificial flavours that affect our cognitive functioning. Research demonstrates that high consumption of processed foods can cause damage to the hypothalamus, the region of the brain that is responsible for regulating hunger, thirst and the body's natural cycles.

## Science and Shoes:

### Considerations for children and Adults

By Lisa Scott, BSc, DC

As practitioners, we are commonly asked by patients what type of shoes they should wear. Some ask for suggestions for day to day footwear, while others ask “really, how bad are high heels?” We also get weekend joggers to competitive marathon runners wondering if they need a different style of shoe.



The foot, is comprised of 26 bones and 33 joints. The human foot is a strong and complex mechanical structure that requires footwear that encourages proper alignment and movement for the ankle and foot. The foot also plays a role in shock absorption for the entire body with walking to sprinting. Our foot gets put into a variety of types of footwear such as flip flops, sneakers, winter boots to high heels for the fashion-conscious women of our time. So, really, what is the best footwear to wear?

The plain and simple truth of what is best has been manipulated in the advertising and manufacturing of shoes. We have been encouraged to seek big, bulky, shock absorbing cushioning to help reduce stress on our joints. What science has provided is the ability to evaluate the effectiveness of this line of thinking. They have discovered that the cushioning put in shoes increases the entire skeletal impact – meaning increased joint stress and loading – but it is reduced only in the foot (1). Now how does that make logical sense? If we are increasing the entire body's stress and only protecting the foot, what health benefit are we really getting?

According to the American Academy of Pediatrics, “barefoot is best” unless unwarranted by the environment. as this keeps

(You can also make your own nut milk by blending 1 cup raw nuts such as almonds, cashews, or brazil nuts with 3 cups water in a high-powered blender like a Vita-mix)

1/3 cup pitted medjool dates  
OR 1/8 to 1/4 cup maple syrup  
OR stevia to desired sweetness

2 Tablespoons virgin coconut oil

1/2 tsp pure vanilla extract

1/2 cup chia seeds

Toppings: blueberries or granola or coconut or cacao nibs if desired

Blend everything except chia seeds and toppings in a high-powered blender until smooth. Pour into a large bowl and stir very well to evenly distribute the chia seeds. (Or shake in a large glass jar or container with a lid to thoroughly combine). Chill overnight, or at least for a few hours until thickened. Top or layer with blueberries etc. If you store your pudding in small mason jars or jam jars, you can have a portable breakfast or snack to bring on the go! It will keep well in the fridge for up to a week.

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According to the American Academy of Pediatrics, "barefoot is best" unless unwarranted by the environment, as this keeps the foot flexible, strong and mobile, and allows for optimal stimulation of the foot by the ground" (2). This truth is applicable also to the adult foot. The more feedback you can have from your foot to your brain about the type of terrain you are walking on, the better balance and awareness you will have of your environment.

When purchasing footwear for children, keep in mind that toddlers do best in socks, bare feet or soft leather type shoes like Robeez. As your kids grow, do tests on the shoes you buy. I am shocked every time I pick up a pair of runners and I can't even bend the sole and they are for a child that weights 50 lbs.

If you're a runner and you're considering a different runner because you have had injuries that are not improving with the thick cushioning type shoe, consider switching to a thinner soled runner like a minimalist. Also realize that, with switching shoes styles, you will have to modify running times to transition to this runner (ask our chiropractors how to do this).

If you're wearing high heels remember the greater the heel height, the greater the stress on your pelvis and legs. If you still intend to wear them, wear them on occasions when you sit more and stand less. Stretch out your low back, hips and especially the calves when you return home and take them off. Look good but give some TLC to the areas that were working hard to keep you balanced.

Flips flops typically are thinly soled but require the toes or "forefoot" to work at holding the shoes on. If you have children, consider sandals with a heel strap. Any sandal with a heel strap helps the forefoot relax and ensure better weight distribution, and balance.

Lastly, if you are having pain in your feet, consider an evaluation for orthotics. Our clinic makes custom orthotics depending on your needs.

We live in Calgary so we can't always have a bendable soled shoe. Treat your feet well and they will take you far. I hope this helps you make better choices for your own personal footwear and for those your care.

1. New Trends in Prevention of Running Injuries: Rethnam 2011, Hamill 2011, Liberman 2010, Bergmann 2010, Brautstein 2010
2. American Academy of Pediatrics [www.aap.org/en-us/pages.Default.aspx](http://www.aap.org/en-us/pages.Default.aspx)

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To all our patients thank you for your referrals. Our clinic currently provides complimentary care to the patient who referred a family member or friend. Please keep this up as we love spreading the great results you get with our treatments....