

Heart TALK

Heart-healthy and Stroke-free Living with Amy L. Doneen, MSN, ARNP Vol 21 SEP/OCT 2013



From Amy Doneen

Amy Doneen, MSN, ARNP

Happy autumn everyone! It's been a very busy year and the past couple of months have been no exception. Beyond my work at The HASPC, I've been preparing for the launch of our book, "Beat the Heart Attack Gene," co-written with Dr. Bradley Bale and Lisa Collier Cool, in early 2014. I've also been traveling to speak.

In September I was invited to give a joint lecture with my colleague, Dr. Bradley Bale, at the 8th Annual Osteopathic Medical Conference & Exposition with the focus on "Multi-dimensional Aspects of Brain Health."

Because the correlation between heart health and brain health is so strong, I wanted to dedicate this issue to the topic of brain health — specifically, how keeping our arterial system healthy also keeps our brain healthy.

I hope you enjoy this issue and find it as exciting and motivational as I do!

~ Amy

How the Health of the Brain is Connected to Vascular Health

Brain Disease Definitions and Stats

Alzheimer's disease is a progressive, degenerative disorder that attacks the brain's nerve cells resulting in a loss of memory. It currently affects 2.4 million Americans and is the 6th leading cause of death.

Dementia is a general term that describes a group of symptoms — such as loss of memory, judgment, language, or motor skills. It affects 3.4 million Americans.

The Important Connection Between the Heart and the Brain

The brain is 2% of the human body in size, but it receives 25% of the cardiac output! (Iadecola, 2008). The brain's integrity depends on a continuous supply of oxygen and energy substrates delivered through the microvascular system (arterial health). Cerebrovascular disease (CVD) is an important cause of dementia.

Poor blood flow = poor brain health & decreased cardiac output = decreased brain perfusion (oxygen to the brain).

"Think of the brain as a jet engine and the heart as the fuel tank!" (Iadecola, 2008)

Important Brain Facts

Microvessel blood flow (small vessel blood flow) — is strongly related to cognitive impairment and predicts poor outcome in the elderly with vascular disease. Also — mini strokes cause diffuse white matter changes in the brain (decreased cognitive functioning).

(Kalaria, 2012).

People with severe vascular disease are 5-6 times more likely to have neural plaque associated with Alzheimer's disease. (Honig, 2005).

Individuals with high risk cIMT changes are 2.5 times more likely to develop dementia and Alzheimer's disease (Wendell, 2012).

Cardiac function (heart pumping ability) was positively and independently related to total brain volume and information processing speed (Jefferson, 2010).

Conditions Causing Brain Decline

Two common conditions that cause vascular inflammation and brain decline are insulin resistance and high blood pressure.

Insulin Resistance —

Even small elevations in fasting blood sugar are associated with brain volume decline (Cherbuin, 2012).

Diabetes and insulin resistance is an independent, predictive risk factor for all-cause dementia, Alzheimer's and vascular dementia (Ohara, 2011).

The neurons in the brain also can become insulin resistant and directly impaired (Ferreira, 2011).

High Blood Pressure —

High blood pressure causes low cognitive performance, poor executive function performance and decreased brain volume (Celle, 2012).

Blood pressure elevation is one of the most important causes of brain small vessel damage (Verhaaren, 2013).



Medicines, Supplements and Foods That Can be Helpful to the Brain

Dark chocolate (>72%)
7gm daily (Larsson, 2011)

Coffee—drink 1-3 cups per day! (D’Elia, 2012)

Get vaccinated against Shingles (Gilden, 2009)

Low dose aspirin (81mg) daily improves memory function testing (Kern, 2012)

Statins reduce dementia risk an average of 50% (Wu, 2013)

Ramipril and other centrally

acting ACE Inhibitors lower risk of dementia (Gao, 2013)

Pioglitazone (Actos) improves brain health in insulin resistant and diabetic individuals (Defranzo, 2011 and Miller, 2006 and Geldmacher, 2006)

Train Your Brain?

Yes, your brain can be trained!

Amy recommends Lumosity to keep your brain active and mentally sharp!

Each Lumosity subscriber gets a personalized training program developed to:

- * Enhance memory and attention
- * Track changes in your performance

Free and paid subscriptions are available!

LUMOSITY.COM

How to Measure Cognitive Function

It is important to have an objective measurement of your cognitive function, especially before retirement. Also watch for any changes in memory or challenges to thought processing.

Computer assessments and games, such as Lumosity, are great ways to do brain exercises every day. I *highly* recommend this.

I also recommend challenging yourself with mental activities.

- Join a book club
- Do multiplication tables while on a walk, each step demanding the next number
- Tell jokes out loud so you remember the punch line
- Tell stories about your day and about your recent and distant past

Be honest with yourself if you notice memory changes. It could be a medication interaction, a side effect, or even a virus. Be sure to get evaluated!

Take preventative measures:

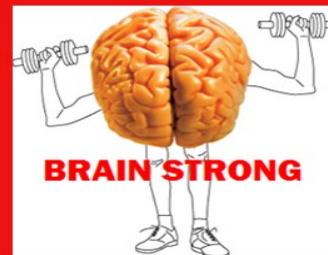
- Get your vascular inflammatory markers checked routinely
- Keep blood pressure < 120/70 for most people
- Keep fasting blood sugar < 100 mg/dL for most people
- Get an IMT visit annually

Stay connected with the Heart Attack & Stroke Prevention Center for heart health and brain health!

Goal: live well—and live independently!

**Heart Health
Brain Health
-are-
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10 Steps to Decrease Risk of Memory Loss (Dementia or Alzheimer’s)

- 1-Keep blood pressure <120/80 (Iadecola, 2008) (Interheart, 2002)
- 2-Keep insulin resistance optimally controlled, fasting blood sugars <100 (Cherbuin, 2012)
- 3-Do NOT smoke (Lloyd-Jones, 2010)
- 4-Keep weight in check – Body Mass Index < 25 (Lloyd-Jones, 2010)
- 5-Exercise EVERY day for at least 22 minutes (Verdelho, 2012)
- 6-Keep cholesterol well managed (TC/HDL <3.0)
- 7-Maintain optimal teeth and gum health – NO periodontal disease (Lockhard, 2012)
- 8-Exercise your mind daily with mind exercises, reading, problem solving, reading retention
- 9-Eat fruits & vegetables daily, fish 3 times/wk, walnuts/almonds, limit red meat, no soda
- 10-Sleep 6-8 hours/night, eat breakfast daily, don’t eat late at night (Cahill, 2013)