1. **Drinking Coffee May Delay Alzheimer's Disease**

By Denise Mann, reviewed by Laura J. Martin, MD a medical editor for WebMD in 2012

According to the findings, people older than 65 who had higher blood levels of caffeine developed Alzheimer's disease two to four years later than their counterparts with lower caffeine levels. The findings will appear in the *Journal of Alzheimer's Disease*.

Alzheimer's disease is the most common type of dementia. Symptoms include serious memory loss, confusion, and mood changes that develop gradually and worsen with time.

The new study included 124 people aged 65 to 88 who had mild cognitive impairment, which is the medical term for mild memory loss. About 15% of people with MCI develop full-blown Alzheimer's disease each year.

No one with mild memory loss who later developed Alzheimer's had initial blood caffeine levels above 1,200 ng/ml. This is equivalent to drinking several cups of coffee a few hours before giving blood. People whose memory loss did not progress all had blood caffeine levels higher than this level, the study shows.

"Continue to drink coffee," says researcher Chuanhai Cao, PhD. He is a neuroscientist at the University of South Florida's College of Pharmacy and Byrd Alzheimer's Institute in Tampa. "There is no reason to stop if you are experiencing memory problems."

2. **Does Caffeine Improve Your Memory?**

By Esther Heerema, Reviewed by Claudia Chaves, MD .Updated July 21, 2017

One theory out there is that caffeine, which has been associated with a lower risk of Alzheimer's disease when consumed in midlife, can also help improve your cognitive functioning now. Sounds great to me. Although I'm not a big coffee drinker, I do like the flavored, "pretend coffee" drinks like swiss-vanilla-mocha-chocolate cream, so if they can help my memory, that's great news.

Research Says

According to a recent study published in 2014 conducted at Johns Hopkins University, caffeine does improve memory. The study involved 160 male and female participants who were shown images to view. Five minutes later they were given a 200mg caffeine pill or a placebo (fake). Twenty-four hours later, the participants who received the pill with the caffeine in it showed an improvement in their memory of those images compared to those who received a placebo pill. According to the researchers, administering the pill after the images were shown demonstrates that the caffeine improved the participants' memory, rather than other possibilities including that the improvement was due to increased concentration or focus.

The journal *Neuroscience* found that when older adults consumed caffeine, they demonstrated improved working memory compared to those without the caffeine.

A third study found that bees who consume caffeine are more likely to remember floral scents than bees who consumed sucrose. (Of course, the question with this type of study is whether that translates to humans or not.)

One study measured the combination of caffeine and glucose and found that when administered together, the participants' reaction time, verbal memory and attention (concentration) were improved when compared to those who received only the caffeine or the glucose, as well as to those who received the placebo.

Caffeine may also improve our spatial memory. A study compared regular caffeine consumers to those who did not consume caffeine on a frequent basis. The results showed that when both groups consumed caffeine, their map memorizing ability (a measure of their spatial memory) improved. Interestingly, those who were habitual caffeine consumers showed less of a benefit from the caffeine dose as compared to those who infrequently consumed caffeine.

Or Is It a Myth?

Other studies cast doubt on the benefits of caffeine for our memories. One such study, published in the *Journal of Alzheimer's Disease*, reviewed the research conducted thus far on caffeine and cognition and concluded that caffeine's benefits are limited to moderately increasing our focus, mood, and concentration, rather than our memories.

Frontiers in Human Neuroscience. 2013 Oct 17;7:694. Caffeine Promotes Global Spatial Processing in Habitual and Non-Habitual Caffeine Consumers.

Human Psychopharmacology. 2010 Jun-Jul;25(4):310-7. Effects of Caffeine and Glucose, Alone and Combined, on Cognitive Performance.

Johns Hopkins University. January 12, 2014. It's All Coming Back to Me Now: JHU Researchers Find Caffeine Enhances Memory.

Journal of Alzheimer's Disease 20 (2010). Is Caffeine a Cognitive Enhancer?

Neuroscience. 2013 Oct 10;250:364-71. Acute Caffeine Administration Impact on Working Memory-Related Brain Activation and Functional Connectivity in the Elderly: a Bold and Perfusion MRI Study.

Science. 8 March 2013: Vol. 339 no. 6124 pp. 1202-1204. Caffeine in Floral Nectar Enhances a Pollinator's Memory of Reward.

3. Coffee and Caffeine

This website is a science-based resource developed for health care and other professional audiences and provides the latest information and research into coffee, caffeine and health.

Updated June 17, 2016

Few studies have examined whether coffee or caffeine is beneficial to patients with dementia. One study reported that caffeine consumption in elderly patients with dementia improved some physical symptoms and apathy, but it interrupted sleep when consumed after 6 pm [1]. Another study reported that individuals with mild cognitive impairment (MCI) were much less likely to progress to dementia if they had higher caffeine levels in their blood [2]. These studies, however, did not directly assess whether caffeine promotes brain health in individuals with MCI or dementia. In addition, people with dementia often suffer sleeping problems and are sometimes taken off caffeine for this reason. If caffeine impairs sleep, it could also impair cognitive function or even accelerate cognitive decline.

Coffee is the primary source of dietary caffeine and most human observational research on caffeine's benefits are based on coffee. Generally, one cup of coffee contains 95–200 mg caffeine while one cup of tea contains about 14–70 mg [3]. The caffeine content of sodas and energy drinks can range from 25–60 mg and higher per 12 oz. can, although the sugar content of such beverages may promote obesity and diabetes, which are risk factors for dementia. Additionally, caffeine is available as a dietary supplement in pill form, often in doses of 100–200 mg. For protection against cognitive decline and dementia, there is no evidence for or against caffeine supplements or energy drinks, though adverse health effects have been reported for some energy drinks.

1.Cao C, Loewenstein DA, Lin X et al. (2012) High Blood caffeine levels in MCI linked to lack of progression to dementia. *Journal of Alzheimer's disease : JAD* 30, 559-572.

2. Kromhout MA, Jongerling J, Achterberg WP (2014) Relation between caffeine and behavioral symptoms in elderly patients with dementia: an observational study. *J Nutr Health Aging* 18, 407-410

3. Caffeine content for coffee, tea, soda and more [Internet]. Mayo Clinic. [cited 2016Sep20].