

## Happy Holidays & A Healthy, Prosperous New Year! —The CeneGenics® Medical Institute Team

### Smart Nutrition: Holidays & Beyond 3 studies reveal power foods for brain health, reduced age-related inflammation

Could better food choices mean better memory and reduced age-related inflammation? Quite possibly, particularly when you're talking about luteolin-rich foods, beet juice or vitamin B12.

Yet another good reason to opt for healthier—yet good-tasting—alternatives now that the holiday season is here confronting you with indulgent temptations at every turn.

#### What's luteolin got to do with it?

According to a study in the October 2010 *Journal of Nutrition*, loading up on luteolin-rich foods is a first smart step toward a healthier working memory.

Luteolin is a biochemical agent that can significantly reduce inflammation, thanks to its potent antioxidant activities . . . not to mention its other functions as a supernutrient (bioflavonoid), carbohydrate metabolism promoter, immune system modulator and free radical scavenger.

Rodney Johnson, lead researcher of the University of Illinois study and director of the university's Division of Nutritional Sciences, states that inflammation in the brain "appears to be a key contributor to age-related memory problems."

His research investigated microglial cells—immune cells in the brain/spinal cord—that when instigated by infection release cytokines, causing a series of chemical shifts. Sleepiness, not-as-sharp memory, depressed attitudes and appetite loss result from illness stoked by these inflammatory cytokines.

Per Johnson, his team previously found that during normal aging, "microglial cells become dysregulated and begin producing excessive levels of inflammatory cytokines." The researchers believe that is what ultimately contributes to cognitive aging and what also is a predisposing factor for the development of neurodegenerative disease.

The study, according to a University of Illinois site article, is the first to "suggest luteolin improves cognitive health by acting directly on the microglial cells to reduce production of inflammatory cytokines in the brain."

#### Memory restored to earlier age levels.

The study's subjects were mice—older mice typically have high levels of inflammatory molecules in their hippocampus, a key brain region for memory and spatial awareness.

But the aged mice on a luteolin diet . . .

- performed better on "learning and memory task" than peers
- had lower levels of inflammatory cytokines, more like those of younger adult mice

Johnson says that providing a luteolin diet to the older mice "reduced inflammation in the brain and at the same time restored working memory to what was seen in young cohorts."

With that, Johnson and his team believe "dietary luteolin accesses the brain and inhibits or reduces activation of microglial cells and inflammatory cytokines they produce. The anti-inflammatory effect is likely the mechanism which allows their working memory to be restored to what it was at an earlier age."

### Holiday Food Strategies

- **Appetizers?** Serve fruit, almonds, low-fat cheese with whole grain/seasoned crackers.
- **Dessert?** Go crustless with pies to reduce calories or flavorful low-fat yogurts.
- **Stuffing?** Use less bread and more veggies with seasonings (sage, garlic powder, thyme, etc.). Cook in a casserole, not the bird.
- **Yams?** Go for baked or use natural fruit juice instead of sugar, marshmallows and other sweeteners.
- **Mashed potatoes?** If you must, opt for skim milk, parmesan cheese and a splash of garlic powder/seasonings vs. butter and whole milk.
- **Gravy? Forget about it.** A serving of gravy = 200 calories. Choose a baked yam instead.
- **Go lean.** Remove the skin on turkey, chicken, etc. and choose leaner cuts of meat.
- **Fiber up.** It keeps you feeling full, so keep beans, nuts, seeds, whole grains in your holiday diet.
- **Drink plenty of water.** It helps you eat less and keeps you hydrated.



## Holiday Attitude Strategies

- **Make the scene.** Spend time focused on people, not food.
- **Watch mindless nibbling.** Make a small plate for appetizers to gauge consumption, choosing wisely and varying textures so you can enjoy without overeating.
- **Do yourself a favor.** Leave the loose-fitting clothes in your closet to reduce chance of overeating.
- **Bring healthy alternative dishes you enjoy to holiday festivities.** That way you'll be assured of having better nutritional options.
- **Party? Focus on veggies and fruits—bypass breads and gravies.**
- **Walk, walk, walk.** From malls to around the block or office building, take breaks and walk. It's a simple holiday relaxer and calorie burner.

### What does the data suggest for us?

Per Johnson's research: Consuming a healthy diet has the potential to reduce age-associated inflammation in the brain, which can result in better cognitive health.

So eat up your fill of these luteolin foods and herbs:

celery hearts (higher than celery stalk)  
 peppers (hot)  
 rutabagas  
 spinach  
 parsley  
 thyme  
 peppermint  
 basil  
 artichoke leaves  
 rosemary  
 sage  
 peppers (sweet)  
 olive oil  
 lemons  
 water spinach  
 lettuce  
 kohlrabi  
 kale, Chinese  
 gourd, dishcloth  
 celeriac  
 cauliflower  
 brussel sprouts  
 chamomile tea  
 beets

### Beet juice to beat dementia? Maybe.

We know from prior research that beet juice can lower blood sugar. Now a study published online—November 2010 at *Nitric Oxide: Biology and Chemistry*—reveals that beet juice can do even more: open up blood vessels and increase blood flow/oxygen to a critical region of the brain.

Researchers at the Translational Science Center (Wake Forest University, Winston-Salem, North Carolina) administered a "high vs. a low nitrate diet" to older adults (mean age 74.7). Those with a high-nitrate diet consumed 16 ounces of beet juice with breakfast and followed specific diets for lunch, dinner and snacks. Subjects underwent 10-hour fasts and strategic MRIs that recorded blood flow in the brain.

**Hopeful findings:** Consuming a high-nitrate diet increased blood flow to white matter of the brain's frontal lobes (region linked to degenerative cognitive conditions). "These are the areas in the brain that become poorly perfused as you age," says Daniel Kim-Shapiro, Director of the Center, "and that's believed to be associated with dementia and poor cognition."

## Holidays & Alcohol Trap

When it comes to calories and carbs, alcoholic drinks are among the worse. Even a small glass of wine (4 ounces) can rack up 120 calories.

- **Beer can be a diet wrecker.** Some topping the list for higher carbs are Sierra Nevada Bigfoot Ale (330), Sierra Nevada Stout (225), Leinenkugel Berry Weiss (207), New Belgium 1554 (205), Michelob Iris Red (196), Budweiser & Clamato Chelada (186), Budweiser American Ale (182), Michelob Honey Wheat (175), Sam Adams Lager & Ale (160).
- **Switch it up.** Make your second/ subsequent drinks non-alcoholic to reduce calories.

### Alzheimer's & B12 connection.

An October 2010 issue of *Neurology*, from the American Academy of Neurology, published findings from a small, preliminary study conducted by the Karolinska Institute in Stockholm, Sweden.

According to researchers, "vitamin B12 and related metabolites may have a role in Alzheimer's disease"—an important finding since a vitamin B12 deficiency is a "common condition" in the elderly.

Investigating homocysteine levels (if elevated, associated with strokes) and levels of an active protein in B12 (holotranscobalamin) that can reduce homocysteine blood level. Their seven-year follow-up revealed that with every small increase of homocysteine, the risk for Alzheimer's shot up 16%.

**More study is needed, yet a case is being made for a diet rich in vitamin B12 to ward off neurodegenerative disease.**



### B12: Top Food Sources Per 100g Serving

- clams, oysters, mussels - 1648% RDA (clams), 600% RDA (mussels), 400% RDA (oysters)
- liver (lamb, beef, veal, moose, turkey, duck, goose) - 1428% RDA (lamb)
- caviar - 333% RDA
- octopus - 600% RDA
- fish (mackerel, herring, salmon, tuna, cod, sardines, trout, bluefish) - 317% RDA (mackerel)
- crab, lobster - 192% RDA (crab); 67% RDA (lobster)
- beef - 103% RDA (lean, fat-trimmed chuck)
- lamb - 62% RDA (shoulder cut)
- cheese - 56% RDA (swiss cheese), 40% RDA (gjetost), 39% RDA (mozzarella), 38% RDA (parmesan), 35% RDA (tilsit)
- eggs - 33% (chicken, raw yellow), 122% RDA (goose egg), 63% (duck egg)



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