

by Linda Milo Ohr

## Aging Healthfully

The first of the Baby Boomer generation turned 65 years old in 2011. The number of people age 65 and older is predicted to rise from 40.2 million in 2010 to 88.5 million in 2050, with the highest rate of increase among those 85 and older (Ewing, 2012). With this shift in the age demographics, the growing number of aging Baby Boomers will continue to look for ways to live their lives as healthfully as possible.

Antioxidants such as vitamin C, vitamin E, and selenium are promoted in multivitamins for overall wellness for Baby Boomers, but as specific health concerns arise, these and other nutrients may add additional benefits. "In my opinion, some of the major health concerns that come to mind as any of us age have to do with our heart health, primarily, as well as bone and joint health, arthritis, cognitive function, and, of course, weight management," says Jayesh Chaudhari, Senior Formulation Scientist, Fortitech Inc., Schenectady, N.Y. (phone 518-372-5155, www.fortitech.com). "It seems that the current generation of Baby Boomers is taking proactive steps to aid in maintaining the health of our heart, bones and joints, and brain and at least attempting to maintain a healthy weight. In addition to this, people seem to be looking for condition-specific products that can help them address these health conditions."

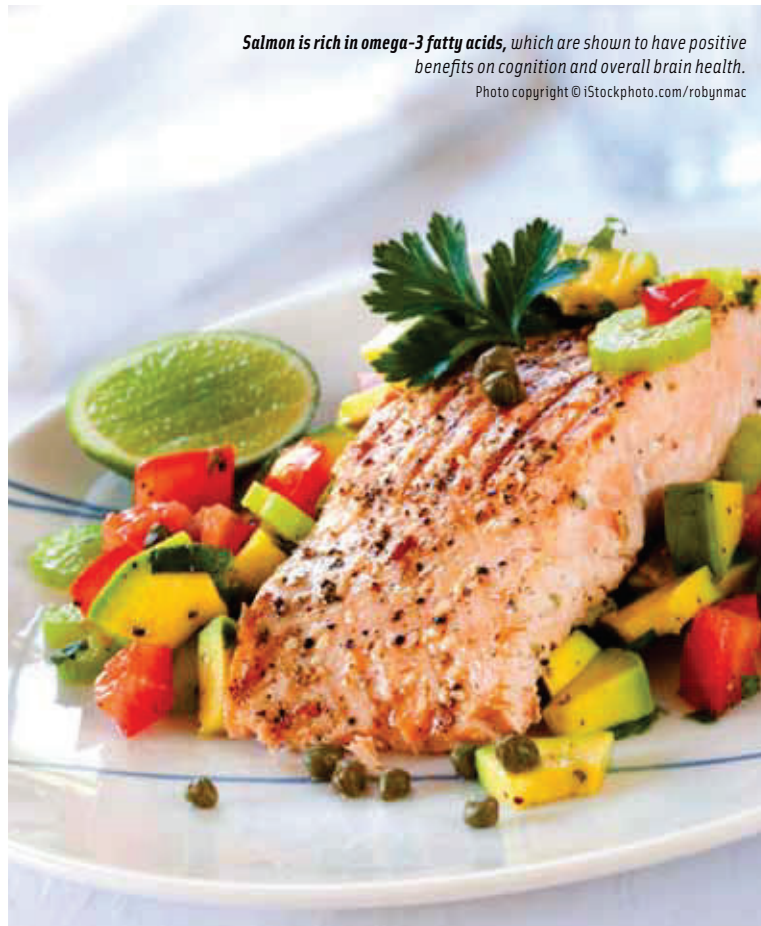
Here is a look at some health concerns and the ingredients that may address them and help us age gracefully.

### Cognition

Focus, clarity, age-related mental decline, Alzheimer's disease. These are some of the brain health conditions and diseases that concern the aging population. Omega-3 fatty acids, botanicals, citicoline, and others recently have been shown to help brain health.

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Omega-3 fatty acids can act as anti-inflammatory agents, protecting brain cells. Gao et al. (2011) showed that daily consumption of n-3 polyunsaturated fatty acid (PUFA) supplements was independently



*Salmon is rich in omega-3 fatty acids, which are shown to have positive benefits on cognition and overall brain health.*

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associated with less cognitive decline in the elderly. The researchers analyzed data from 1,475 Chinese adults aged 55 years and older who did not have dementia upon enrollment in the Singapore Longitudinal Aging Studies. The results showed that daily n-3 PUFA supplement intake was significantly associated with lower risk of cognitive decline. Sinn et

al. (2011) showed that increased intakes of docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) benefited mental health in older people with mild cognitive impairment. »»

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Compounds found in chard are important for good vision and may help to improve eye health.  
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Touted as a superfruit, blueberries have been shown to aid memory. Malin et al. (2011) suggested that a blueberry-enriched diet can reverse and prevent some age-related object memory decline. The results showed that Fischer-344 rats fed a 2% blueberry-enriched diet had a significant increase in their object memory scores whereas the rats fed the control diet exhibited a non-significant decline in their object memory scores.

Ginseng is said to help improve memory. Scholey et al. (2010) demonstrated that *Cereboost*<sup>™</sup> ginseng extract improved working memory and supported attention in 32 healthy individuals. Naturex Inc., South Hackensack, N.J. (phone 201-440-5000, [www.naturex.com](http://www.naturex.com), [www.cereboost.com](http://www.cereboost.com)), offers *Cereboost* with a unique composition of ginsenosides.

Research has shown that citicoline may speed up formation of brain cell membranes and benefit production of neurotransmitters essential to brain function. Kyowa Hakko USA, New York, N.Y. (phone 212-319-5353, [www.kyowa-usa.com](http://www.kyowa-usa.com), [www.cognizin.com](http://www.cognizin.com)), offers *Cognizin*<sup>®</sup>, a branded form of citicoline. Scientific studies have indicated that the ingredient maintains normal cognitive function with aging by protecting neural tissue from free radical damage.

Deborah Yurgelun-Todd, a researcher with the University of Utah's Brain Institute, discussed in 2011 her research on *Cognizin* and brain health in an interview with *Natural Medicine Journal* (Kyowa, 2011). The results found that subjects who received either a low (250 mg) or high (500 mg) dose of the ingredient produced fewer errors during performance testing compared to those who received a placebo. She also highlighted the results of a six-week neuroimaging study where the subjects took a daily oral dose of either 500 mg or 2,000 mg of *Cognizin*. The subjects showed improved accuracy in generating correct responses, better spatial memory retrieval, and increased brain metabolism after taking the ingredient for the test period. The results were nearly identical for subjects taking either dose, confirming that statistically significant improvements in attention, focus, memory, and recall can be achieved at dosing levels of 500 mg of *Cognizin*.

### Eyesight

Lack of visual acuity, age-related macular degeneration (AMD), and cataracts are common eye health conditions that affect older people. A recent report from DSM Nutritional Products LLC, Parsippany, N.J. (phone 800-526-0189, [www.dsm.com](http://www.dsm.com)), Upgrade Your Vision, highlights nutrients believed to aid eye health.

A range of vitamins, minerals, omega-3 fatty acids, and carotenoids has been linked to a reduced risk of AMD. Vitamin E, folate, vitamin B-6, and vitamin B-12 have shown benefits. Supplying an adequate amount of vitamin A or beta-carotene, which is converted to vitamin A in the body, is vital for good vision. Vitamin C functions as an antioxidant and has been associated with a reduced risk of developing cataracts. DHA is an important component of retinal

pigment cells and is vital to the optimum function of the retina throughout life. A high intake of DHA and EPA has been associated with a reduced risk of AMD.

The two carotenoids lutein and zeaxanthin are located in the macula of the eye and are believed to help maintain sharp and focused vision and are able to absorb harmful blue light, which can damage the retina. DSM offers *FloraGLO*<sup>®</sup> lutein (*FloraGLO* is a registered trademark of Kemin Industries Inc.), *Optisharp*<sup>®</sup> zeaxanthin, *life'sDHA*<sup>™</sup>, *Ropufa*<sup>®</sup> omega-3, vitamins, and minerals.

### Bone and Joint Health

Mobility, which is affected by bone and joint health, is important to the aging population. "By far, calcium and vitamin D have been the mainstay ingredients in bone health-promoting products," says Chaudhari. "However, there is growing consumer interest in other ingredients that could promote optimal bone health, including magnesium, vitamin K-1 and vitamin K-2, vitamin C, and possibly some botanical compounds such as those found in tea or soy."

AIDP Inc., City of Industry, Calif. (phone 866-292-6699, [www.aidp.com](http://www.aidp.com), [www.koact.net](http://www.koact.net)), featured *KoAct*<sup>®</sup> calcium collagen chelate in a chocolate raspberry bar at the 2011 SupplySide West Show. The ingredient is a patented chelated compound of calcium and hydrolyzed collagen peptides (collagen I) that increased bone mineral density and bone strength in an animal model of osteoporosis.

Vitamin K-2 (menaquinone-7) plays an important function in the skeletal and cardiovascular systems by activating certain biologically important proteins such as osteocalcin for healthy bone structure and protein matrix Gla-protein for elasticity and prevention of calcification of blood vessels. Vitamin K-2 helps build healthy calcium matrix in the bone and prevents calcium

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deposits in the arteries. PL Thomas & Co. Inc., Morristown, N.J. (phone 973-984-0900, [www.plthomas.com](http://www.plthomas.com)), offers patented, self-affirmed GRAS *MenaquinGold*<sup>®</sup> natural vitamin K-2.

Glucosamine and methylsulfonylmethane (MSM) are two popular joint health ingredients. Cargill Corn Milling, Wayzata, Minn. (phone 888-734-3627, [www.cargill.com](http://www.cargill.com)), showcased a juice drink with glucosamine at the 2011 SupplySide West show. The company's *Regenasure*<sup>®</sup> glucosamine is vegetarian and GRAS and is produced in the United States from a common, naturally occurring source.

MSM contains 34% sulfur, the fourth most abundant mineral in the human body. It is thought that MSM reduces inflammatory markers that damage cartilage. Kim et al. (2006) showed that subjects with mild to moderate osteoarthritis of the knee who took 3,000 mg of *OptiMSM*<sup>®</sup> twice daily for 12 weeks experienced statistically significant reductions in pain and in difficulty performing activities of daily living. Bergstrom Nutrition, Vancouver, Wash. (phone 360-693-1883, [www.bergstromnutrition.com](http://www.bergstromnutrition.com)), supplies *OptiMSM*.

### Muscle Mass

An estimated 30% of people 60 years and older and 50% of those aged 80 and older may experience a loss of muscle mass, function, and strength. Emerging research suggests that the total protein intake for older persons should actually be 1–1.5 g/kg/day. As 15–38% of older men and 27–41% of older women ingest less than the recommended daily allowance for protein, it is suggested that protein intake be increased.

"Many of dairy's benefits are of particular interest to seniors looking to maintain a healthy, active lifestyle," says Mickey Rubin, Vice President, Nutrition Research, Dairy Research Institute<sup>®</sup>, Rosemont, Ill. ([USDairy.com/DairyResearchInstitute](http://USDairy.com/DairyResearchInstitute)). "Nutrition research continues to build support for the valuable role of dairy ingredients in maintaining good health, including strong muscle and bones." Better understanding of the nutritional value of dairy and dairy ingredients in the aging and other populations is a priority for the Dairy Research Institute, an organization established by America's dairy farmers and funded through the dairy check-off program.

"The nutritional benefits of dairy products and ingredients dovetail perfectly with aging-related health concerns," says Vikki Nicholson, Senior Vice President, Global Marketing, U.S. Dairy Export Council (USDEC), Arlington, Va. (phone 703-528-3049, [www.usdec.org](http://www.usdec.org)). "Foods

made with dairy are desirable to consumers and are perceived as natural and wholesome." Food and beverage manufacturers can leverage whey protein in product innovations to reach the mature consumer interested in maintaining muscle strength to support their active lifestyle. Other dairy ingredients and products like milk

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protein concentrate and yogurt also provide valuable benefits to the aging. The USDEC works in partnership with university-affiliated dairy research centers, part of the National Dairy Foods Research Center program, to help companies innovate and improve food and beverage products using U.S. dairy ingredients. It

has developed a number of prototypes utilizing dairy ingredients to target the aging population, including *Sweet Potato Bread Pudding for the Ages*, which it showcased at the 2011 IFT Food Expo®.

### Heart Health

There are several ingredients shown to provide heart-health benefits for Baby Boomers. Phytosterols, beta-glucans, dietary fiber, soy protein, and dairy peptides address cholesterol issues, blood pressure, and an overall reduced risk of cardiovascular disease. "Cardiovascular health may be supported by omega-3 fatty acids in lowering blood pressure, relaxing blood vessels, and lowering cholesterol levels," adds Chaudhari. "Research has found that dietary intake of omega-3 lowered levels of inflammation and endothelial activation, which might explain in part the effect of these fatty acids in preventing cardiovascular disease and their role in heart health." **FT**



Linda Milo Ohr,  
Contributing Editor,  
Denver, Colo.  
• linda.ohr@gmail.com

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