

Physical Activity and the Brain

Welcome back! As we *spring* into fitness, let's think a bit more on the topic of brain health.

Physical activity is shown to enhance brain health! That's right...neuroscientists (Nussbaum 2006; Abbott et al. 2004; Verghese et al. 2003) recommend **swimming, dancing, gardening, knitting, more frequent use of the non-dominant hand and leg, and walking** on a daily basis. Small (2006) encourages **regular physical activity** that includes an adequate cardiovascular workout. Medina (2008) suggests that aerobic exercise is the key to lowering the odds of getting Alzheimer's by 60%. An accumulation of 30 minutes of walking a day can cut the risk of having a stroke, one of the leading causes of mental disability in older adults, by up to 57%. Medina (2008) says that our evolutionary ancestors **walked up** to 12 miles per day, which strengthened the cardiovascular system and built a network of vessels that enhanced blood flow to the brain.

Regular **physical activity** increases flow of blood to the brain. Blood brings much-needed oxygen and glucose for energy, stimulating the growth of dendrites and thereby enhancing connections in-and-between neurons. **Physical activity** is also reported to stimulate growth of new cells in the hippocampus. Ratey (2008) refers to **physical activity** as *Miracle-Gro*[®] for the brain, serving to fertilize the cells in an effort to keep them functioning and growing.

Medina (2008) reports on the growing body of research that suggests **physical activity** is a key factor in preventing and treating depression and anxiety. **Physical activity** acts to release three neurotransmitters that are directly associated with the maintenance of mental health: serotonin, dopamine and norepinephrine. These neurotransmitters have a positive impact on mood, feelings of harmony and well-being.

Physical activity optimizes learning in three ways (Wolfe 2001), serving to:

1. Heighten the ability of systems to function more efficiently and effectively.
2. Enhance the ability of cells to connect.
3. Promote new cell growth.

Arthur Kramer, PhD, of the University of Illinois, tested the cognitive functioning of 124 men and women, aged 60–75. Subjects were divided into two groups; one **walked** briskly for an hour three times per week, while the other did **yoga stretches**. After 6 months of activity, they were given a memory test, and the walkers scored 25% higher than those who stretched (Ratey 2008).

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According to Verghese and colleagues (2003), older adults who **dance** regularly decrease their risk of dementia by 76%. One such woman, active in square dancing, reported she does it to keep her body and her brain healthy. Her square-dance group once did a demonstration for a group of college students. Those students, and their professor, observed firsthand the quick responses these older adults had to the various complex square-dance calls. The students were even more impressed when they joined in, learning just a few basic moves. Any time we challenge our brains by doing something new and different, we strengthen neuronal connections (Jensen 2006).

With this in mind, encourage residents to get *moving*. Share the facts found in this month's column with them. If they're just getting started, never fear! Several of the *FitXpress* DVD titles were designed with those folks in mind. Go to www.fitxpress.com and visit the PRODUCT page. The best titles for those who are just getting started, or who may be somewhat frail, are *Stars & Stripes Fitnessize*, *Music in Motion*, *Yoga Stretch and Easy Tai Chi*. If you have a question or comment, feel free to call me toll free at 1-800-481-7449; ext 802.

“Happy Mother’s Day” to all the moms out there! ☺