

## **GOOD FOR THE BODY – GOOD FOR THE BRAIN**

*“Exercise is that good for you. You name just about any health problem, and you’ll find that exercise helps prevent it or cure it. Exercise is the elixir of life.”*

~Liz Applegate, Ph.D.

You probably see it on a weekly basis in your practice. A formerly well-appointed, successful patient arrives for their appointment with the assistance of a family member or caregiver. They need help getting into the chair, and you are surprised by the decline in their health since you saw them last. Especially when you remember that your patient is only a few years older than you are.

### **The Cues and Consequences of Accelerated Brain Aging**

Many members of the Baby Boom generation are dealing with the consequences of accelerated brain aging with friends and family members, or perhaps you have noticed clues in your own behaviour:

- Can’t remember the patients name in the waiting room – do you avoid your waiting room for fear of speaking with a patient and not remembering their name?
- Constantly asking your assistants the lab’s phone number
- Losing focus in the middle of a conversation
- Rejections to case presentations set you back for the rest of your day
- A lack of life-force energy
- Trouble with decision making

The Globe and Mail reported in January 2010 that the annual cost of dementia is growing rapidly. Dementia is the number one cause of disability over age 65 and this is only worsening as the large numbers of baby boomers age. Dementia is the medical term describing the slow loss of intellectual function. It encompasses a number of conditions including Alzheimer’s – which is the most common form of dementia. Alzheimer’s is the second most feared diagnosis after cancer. There is no cure – just a handful of medications that may slow the inevitable, progressive decline. According to researchers some of the leading factors promoting Alzheimer’s disease are smoking, poor diet, lack of intellectual stimulation and physical inactivity.

The first recommendation on a recent report commissioned by the Alzheimer Society of Canada is to provide education to promote physical and mental exercise that can delay the onset of dementia. Mark Mattson, of the National Institute on Aging agrees: “Many of the same factors that can reduce our risk for cardiovascular disease and diabetes also reduce the risk for age-related neurodegenerative disorders.” Unfortunately our sedentary society is not even coming close to meeting the minimum requirements for brain health.

Only 8% of men and 4% of women actively participate in a complete exercise program, which includes cardiovascular activity, strength training and flexibility.

For years the medical community, the government, and Registered Dietician's have recognized the importance of nutrition in preventative medicine, but only recently has science and the medical community come to the common agreement that: Exercise is Medicine – a term coined by the American College of Sports Medicine and supported by medical doctors and the American College of Preventative Medicine in a book by the same name with the subtitle: A Clinician's Guide to Exercise Prescription.

### **Exercise is Medicine**

Exercise is like a miracle drug. It helps to prevent heart disease, stroke, diabetes, obesity, and even some cancers. It will make your bones stronger, improve your blood lipid profile (cholesterol and fats in the blood), increase your strength, and restore your balance. Exercise stimulates new blood vessel growth in your brain, heart, and skeletal muscle, increasing the amount of oxygen and nutrients to these areas. People with the least cognitive decline have three things in common: education, self-efficacy, and exercise.

#### **Develop Your Team's Mental Muscle**

- Start a lunch break walking group that walks for 20 – 30 minutes each day and provide incentives for participation
- Purchase gym passes or massage gift certificates for staff as a holiday present
- Have an active staff party (hire a dance instructor, rock climbing, partner yoga)
- Consider an active retreat for your next staff professional development location
- Have staff participate in a run/ walk or ride for a cause and train together
- Bring in a trainer, physiotherapist, chiropractor or nutritionist for a lunch and learn
- Set up a small workout area with a bike, ball and exercise bands

### **Specific Benefits for the Dental Team**

In 2007, German researchers conducted a human study that tested participants on vocabulary words before and after exercise sessions. The rate of learning increased by 20 percent after exercise. Is that lunch hour walking group starting to sound like a better idea? In 2004 Kramer showed that aerobic exercisers performed better on a test of executive function. This includes the ability to correct errors, react to new situations and plan or make decisions. The Journal of the American Medical Association published results from the Nurse's Health Study, which showed that women who were the most active had a 20 percent lower chance of being cognitively impaired when tested on general intelligence and memory. Considering that women often make up a large part of the dental team, it pays to have your staff be more physically fit.

In 2004, researchers at Leeds Metropolitan University in England studied 210 participants who used their company's gym for aerobics, weight training, or yoga classes

during their lunch breaks. The workers demonstrated more productivity and reported they were better able to handle their workloads. They also felt less stress and fatigue in the afternoon. Henry Lodge, the coauthor of *Younger Next Year*, says that the chemical makeup of your blood will change for most of the day after you exercise. This positive chemical change promotes the regeneration of cells in the body and the brain. Who says that exercise can't be a gift that keeps on giving? Can you imagine being alert and focussed – being aware of your patients' responses to your treatment, and finishing that crown and bridge procedure right on time at the end of a long day? Your staff and patients will be thrilled!

### **Try a Brain Energizer for Your Next Huddle or Meeting**

Quick Clap (sound and motion are stimulating for brain)

-clap once behind head

-clap once behind your back

-clap once in front of your chest

-repeat sequence 10 or more times as quickly as possible

In 2007, researchers at Columbia University showed increased blood flow to a part of the brain responsible for memory, after only three months of regular exercise. The participants also experienced faster reaction times – can you see yourself grabbing that temporary crown as it falls toward the floor? Exercise stimulates growth factor proteins, reports Carl Cotman, director of the Institute for Brain Aging and Dementia at the University of California, Irvine. His team found a direct link between cognitive function and movement. He showed that exercise increases brain-derived neurotrophic factor (BDNF), which is a chemical that helps to build and maintain the neuron connections in the brain. Neuroscientist Arthur Kramer did brain scans before and after six months of exercise intervention with 60 – 72 year old participants. A control group did a stretching routine while the exercise group performed three 1-hour cardio sessions per week. The amazing findings: the exercise group had frontal and temporal brain lobe volume increases!

### **Brain Fitness Prescription**

A good workout for brain health combines aerobic activity with a sport or activity that challenges the brain. We recommend activities like ballroom dancing, aerobic classes with choreography, and figure skating (by the way - there is no age limit on learning to skate). You can also perform moderate to vigorous cardiovascular activity before or after a yoga, ballet, pilates, karate, or rock climbing session. Or combine aerobics with interval circuits of resistance training. More studies are needed to determine the best prescription to provide the ultimate brain benefits. And there is little known about resistance / weight training and brain health – scientists have yet to figure out how to get lab mice to lift weights!

*“Exercise is the single most powerful tool you have to optimize your brain function...”*

~Dr. John Ratey, MD, Harvard University

**Bio:**

Dr Uche Odiatu DMD and Kary Odiatu are both NSCA Certified Personal Trainers and the authors of *The Miracle of Health* © 2009 (John Wiley & Sons) and *Fit for the LOVE of It* © 2002. Dr Odiatu is a practicing dentist in Toronto. Kary is a former Ms Fitness Universe. The dynamic duo have lectured at the largest dental conferences in North America and have been guests on over 280 TV (ABC's 20/20 and Canada AM) and radio shows (KFAR Alaska to WGST Atlanta).

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