

# The Memory Practice

Newsletter

Issue 12 - December 2007



In this issue, Dr. Michelon tells you about:

## PHYSICAL EXERCISE and BRAIN HEALTH

The Memory Practice develops **brain exercises** to help adults boost their memory and sharpen their mind.

**Groups programs:** Organize group sessions at your facility.

**Individual programs:** You will receive brain exercises at home and get regular feedback from Dr. Michelon.

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## Physical Exercise and Brain Health.

### Don't forget to get off that coach!

As you know, keeping your mind active seems to be crucial for brain health. However, this is not the only thing you can do to keep a healthy brain. More and more research points to physical exercise as another key factor for brain health.

### Early studies

Early studies looking at the effect of physical exercise on brain functioning compared groups of people who exercised to groups of people who did not exercise much. Results showed that people who exercised usually had better performance in a range of cognitive tasks compared to non-exercisers.

The problem with these studies is that the exercisers and the non-exercisers may differ on other factors than just exercise. Thus the advantage that the exerciser group shows may not come from exercising but from other factors such as more re-

sources, better brain health to start with, better diet, etc.

### Recent studies

The solution to this problem is to take two very similar groups of people, have only one group participate in an aerobic training program and keep the other group as control.

If the exerciser group and the non-exerciser group are very similar to start with and if the exerciser group shows less decline or better performance over time than the non-exerciser group, then one can safely conclude that physical exercise is beneficial for brain health.

In 2003, Colcombe and Kramer, analyzed the results of 18 scientific studies published between 2000 and 2001 that were conducted in the way described above.

The results of this meta-analysis clearly showed that **fitness training, regardless of the training method and the brain functions assessed, increases cognitive performance.**

Interestingly, the meta-analysis also showed that fitness-related cognitive benefits were larger for women than for men. Unfortunately the authors did not explain this result...

## Alzheimer's Disease

Recent studies showed that physical exercise is also associated with lower risk of cognitive impairment, Alzheimer's disease and dementia in general.

### How does that work?

Research with animals has shown that the brain of mice that exercise exhibits cellular, molecular and neurochemical changes. For instance, increased aerobic fitness (running) can increase the number of new cells formed in the hippocampus of mice (the hippocampus is crucial for learning and memory). Increased exercise also have a beneficial effect on mice's vascular system (the system that brings blood to the brain). Although it is not clear how physical exercise impacts on cognitive functioning in humans, it seems likely that exercise acts directly on the brain itself rather than on general health.

## Conclusions

Make sure you get some exercise in spite of the cold air outside!

**Dr. Michelon wishes you a MERRY CHRISTMAS and a joyful and healthy NEW YEAR!**