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Exercise is more important than you thought

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I've recently become certified as a dementia practitioner. Having been a geriatric Physical Therapist for, let's say, "many" years (aka a really long time), most of what I learned was what I already knew. But a recent study by German researchers has changed what I knew anecdotally into real science.

Anyone who's worked in long term care knows that there are life-style changes that affect cognition:

- Exercise helps. The more active older adult is less likely to develop cognitive decline over time.
- Keep the brain alert and active by learning new things.
- Diet modifications including limiting meat and fats can delay dementia.

But now we know that there are chemical markers in the brain that show that regular aerobic exercise changes brain chemistry.

Researchers measured the total choline (tCho is a chemical associated with membrane inflammation and degeneration), gray matter volume, and cognitive function of 53 subjects over age 65, at baseline and after 12 weeks. These cognitively healthy test subjects were divided into a supervised exercise group and a control group.

At the end of twelve weeks, only one major change was noted: Those who participated in the aerobic exercise program's tCho was stable. The control group's tCho increased.

A combination of two types of choline, tCho is associated with two types of brain inflammation and degeneration.

The researchers were unable to say that the aerobic exercise directly impacted the tCho stability, but concluded that it was more likely related to better cardiac function and efficiency. They determined that physical and cardiac fitness is closely related to cerebral brain metabolism.

Choline is known to be a marker of degeneration. This study suggests that regular aerobic exercise may have a neuroprotective effect. Again, it's something we know anecdotally. But now there's science behind it.

This study was done over a short period of time with a very small sample group. But the numbers and the results are still worth exploring, and it's hard to say that fitness can ever be detrimental. Either way, the link between physical activity and tCho levels could be a window into the chemistry behind the beneficial effects of exercise.

As rehab professionals, we try to get even the most debilitated patients moving. We see those who are short of breath at rest and push to increase their endurance. How often are the treadmills in your building used? How often are the recumbent bikes brought out of storage? Even with minimal continuous exercise, we can still improve cardiac status, physical health, and maybe even cognition.

For those of us approaching the age where some of our peers are starting to show decline in their cognition, it's certainly worth doing everything we can and exploring all options to preserve the physical and mental health of our clients.

And now it's time to go for a run.

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