

Class Health Letter

CHPE- DPT

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HOW FISH CONSUMPTION REALLY AFFECTS YOUR BODY

OMEGA 3 FATTY ACIDS

For years, nutritionists and health gurus have touted fish as a nutritional powerhouse. Long chain Omega 3 fatty acids, which are commonly found in fish and fish oil, are thought to improve cognition and protect against heart disease and cancer. However, recent research studies have shown that consumption of fish and fish oil may actually have a negative effect on the body. Researchers conducted a risk benefit analysis that compared the positive effects that Omega 3's have on cognition with the negative effects that mercury, which is found in most fish, has on cognition. In particular, the study examined these effects on unborn babies whose mothers consumed fish and fish oil on a regular basis. The study found that the levels of mercury found in fish and fish oil correlated with a loss of approximately eight IQ points in the baby, whereas the levels of Omega 3 fatty acids correlated with an increase of only one IQ point. In regard to cognition, the risk of consuming fish appears to outweigh the benefits.

In addition, there is new evidence that the Omega 3's in fish not only have no positive effect on heart disease and cancer, but may actually increase the risk of cancer and cardiac death. Fish contain industrial pollutants that are known carcinogens, and there is evidence that consumption of these pollutants can increase the risk of prostate cancer in men. In regard to cardiac health, men with heart disease that were advised to consume fish actually had a higher incidence of cardiac-related death.¹



1 IN 12 DEATH WORLDWIDE CAN BE PREVENTED.

HERE'S HOW: ...

A new study of more than 130,000 people ages 35-70 years old in 17 countries carried over a 7 year period found that if people got 30 minutes of physical activity a day for five days a week that one in twelve deaths can be avoided. The researchers considered leisure-time physical activity (like going to the gym or for a run) as well as non-leisure-time physical activity (like tasks at work, or walking/biking to work or housework). The scientists found that no matter the kind of activity, people who met the physical activity guidelines were 30% less likely to die during the study period. Another find was that people who met the activity guidelines were 20% less likely to develop heart disease.

Based on these results, the researchers found that if everyone met these activity guidelines, 8% of deaths and 5% of heart disease cases worldwide would be prevented over seven years. The study also revealed that the more physical activity the participant engaged in, the lower their risks of death and heart disease were. The majority of the participants' physical activity was through non-leisure-time physical activities. This shows that in order to realize the full benefits of physical activity, it needs to be incorporated into daily life.²

CAN WEIGHT LOSS CAUSE COGNITIVE IMPAIRMENT AS

DOES SKINNY = SMART?

As the years pass by, the number of cases of those with dementia is on the rise. One factor that may influence whether or not a person develops dementia is body mass. In North America and European countries, there is evidence that links obesity to the development of dementia. However, there have recently been tests conducted in Japan that suggest being underweight may also be a risk

factor for developing the disease later in life. One test in particular set out to determine whether body mass index (BMI) and lifestyle are correlated with an increased risk of developing dementia, in which they used a group of middle-aged and elderly Japanese people as their subjects. Don't go throwing out your running shoes and dumbbells just yet though. This test conducted was the first to examine the relationship between modifiable factors (weight loss and lifestyle) and the risk of developing dementia. More research needs to be conducted in this area to give an official statement regarding whether or not developing dementia is indeed influenced by how much weight someone lost after they turned 20 years old.³



The Health Letter is a initiative of the DPT students with a view to inform and educate the Misericordia Community in health matters that impact general public health. The Health Letter is published during the fall semester biweekly.

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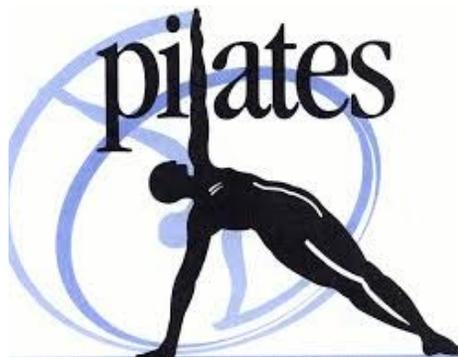
Physical Therapy Department

THE EFFECTS OF A PILATES TRAINING PROGRAM ON ARM-TRUNK POSTURE AND MOVEMENT

IS PILATES WORTH IT?

This study followed the progress of nineteen subjects through a twelve-week Pilates program. The experimental group received two one-hour sessions a week. The control group did not receive any Pilates sessions. To gather a baseline for the study, they took a measurement of shoulder flexion and EMGs of muscle activation at different ranges. These factors are objective measures we can use to see if posture improves.

By the end of the twelve weeks, the experimental group saw improved scapular motion and major muscle activation. This will result in better posture and pain free motion. The improved scapular motion will improve the quality of the motion while the major muscle activation will help recruit smaller muscles and decrease pain commonly associated with shoulder movements. As students, our posture can suffer from spending hours hunched over looking at books. The lack of motion also hurts our muscle recruitment with gross motions. We



CALORIE RESTRICTION SLOWS AGE-RELATED EPIGENETIC

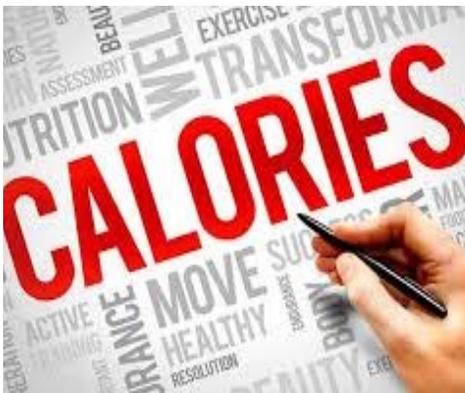
LIMITING CALORIES=HEALTHY OLDER PEOPLE

all have something to gain from the many benefits of Pilates.⁴

A team of scientists at Temple University conducted a study where they examined the epigenetic profiles in mice, rhesus monkeys, and humans at different ages, then tested whether these changes were altered by a calorie restricted diet in mice and monkeys. Each species that was studied showed similar changes in DNA methylation patterns, or epigenetic drift, as they aged. The scientists found that

lifespan and rates of epigenetic drift were inversely related. This means that faster rates of epigenetic drift result in a shorter lifespan.

To conduct their study, the scientists fed the experimental group of monkeys a diet with 30% fewer calories than the control group from the ages of 7-14 years old until they were 22-30 years old. The experimental group of mice were fed a diet of 40% fewer calories than the control group from the ages of .3 years old until they were 2.7-3.2 years old. The results of the experiment were astonishing. The group of monkeys that received the calorie restricted diet showed the same patterns of



CAN WALKING IMPROVE TRIGLYCERIDE LEVELS?

WALKING, DOES IT MATTER?

DNA methylation as monkeys who were 7 years younger and ate as much as they liked. Their age difference in the mice was even greater.⁵

Researchers in Otago, New Zealand implemented a walking program for a small group of healthy, normal weight participants. The experiment consisted of manipulating how often different patients walked during the day. Based on the results from the study, those who took a frequent, moderate intensity walks after eating foods made to spike triglycerides showed a 7% drop in triglyceride levels. Regular activity interspersed with physical activity and breaks helped lower triglyceride levels. Those who only took one long walk showed no difference in triglyceride levels.

What does this mean? Elevated triglyceride levels can put you at risk for cardiovascular disease, obesity, and high cholesterol. Therefore, taking short, frequent walks throughout the day, rather than spending most of your time in a sedentary position, can decrease these risks.⁶ Though only a small study, this research can have significant implications for therapy and exercise progression.



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Check in next time to find out some more interesting health tips and tricks!