Health: What Happened in Naperville?

Did you ever hear of Naperville Illinois? Naperville is a town near Chicago and the subject of a fascinating experiment written about by psychiatrist Dr. John Ratey in his groundbreaking book “Spark”.

Most high schools in the United States have the standard physical education classes consisting of competitive sports such as football, basketball, track and field and some basic calisthenics. Some students excel at sports, others just get by and many can’t wait until the end of the period. The gym teachers at Naperville conducted an educational experiment called Zero Hour P.E. where they scheduled time to work out before class using treadmills and other exercise equipment where you are only competing against yourself to improve. This program not only turned their 19,000 students into the fittest in the nation but also in some categories, the smartest in the world.

Academically, Naperville High School is currently in the top 10 in the state despite the fact that they spend less money per pupil than other high schools in their district. The students at Naperville decided to take the Trends in International Mathematics and Science Study (TIMSS) given around the world. The United States has notoriously done poorly on this test. Whereas in Asian countries nearly half of the students score in the top tier, only 7 percent of U.S. students hit that mark. In Naperville, 97 percent of the 8th graders took the test. On the science section, they finished just ahead of Singapore, number one in the world. And on the math section, they were number 6 in the world. And all of this change can be attributed to their innovative exercise program.

A fascinating study, but let’s take this one step further. In my almost 18 years of being a personal trainer, I have trained many Bochurim, Avreichim and some Roshei Yeshiva as well. The vast majority of them were helped with their physiological problems, like high blood pressure, high cholesterol, diabetes and low back pain. But before any of those benefits became evident, about two weeks into their programs I started getting feedback like, “I can’t believe how much better I can concentrate in the Beis Medrash!” or “I am able to stay awake and alert when learning with my late-night Chavrusa!” and “I can even concentrate when I come home after a long day of learning and I still need to learn with my children!”. Let’s analyze why it is that exercise has such a profound effect on the brain and on cognitive abilities.

There is basically no brain function that exercise doesn’t affect in a positive way. Whether we are talking about mood or learning, exercise seems to be a big part of the equation. Even in people with ADD and ADHD, exercise helps them concentrate
better and learn better; particularly exercise that involves structured movement like martial arts. Dr. Ratey states, “Exercise increases the concentration of both dopamine and norepinephrine, as well as other brain chemicals. I have always said that a dose of exercise is like taking a bit of Ritalin or Adderall. It’s similar to taking a stimulant. Second, over time, exercise helps build up the machinery to increase the amount of neurotransmitters in the brain as well as their postsynaptic receptors. Chronic exercise eventually causes growth of the system. The more fit that you are, the better the system works.” The bottom line is that there is an increase in the ability to absorb knowledge and to learn things; something near and dear to the Torah world.

If you are having difficulties learning or concentrating, there may be many factors including lack of sleep, proper diet, and hydration. But have you tried a comprehensive exercise program? Aerobic exercise, like brisk walking, running, biking or swimming might just do the trick—and add a couple of days a week of muscle building exercises starting with pushups and situps. Doing this in the middle of the day might provide the needed break that will enable you to learn better throughout the day. Work your way up slowly and carefully with increasing intensity for maximum benefit.

Pirkei Avos, Chapter 4, Mishna 1: Ben Zoma says, “Who is wise? One who learns from everyone.” So let’s learn something from Naperville and apply it to our own situation. Embarking on a serious exercise program not only improves your health and well-being, but your comprehension and ability to learn as well. It certainly is a worthwhile investment for both your body and your neshoma. Enhancing your learning is another great benefit of the exercise that will “add hours to your day, days to your year, and years to your life.”

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