

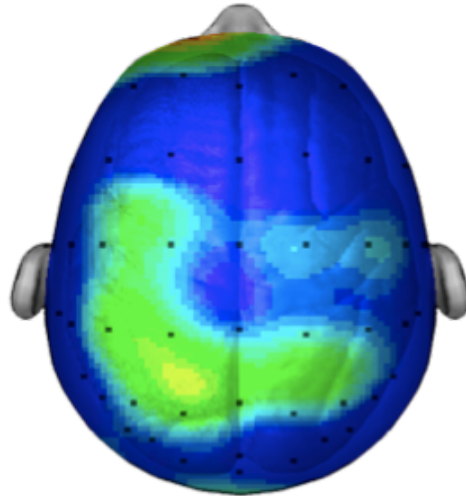


Illinois Association for Health, Physical Education, Recreation & Dance

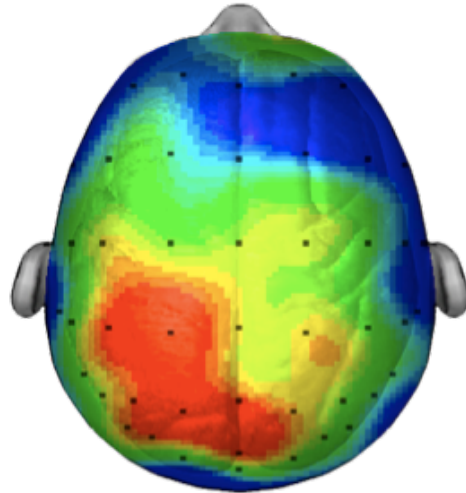
**IAHPERD**

# Average composite of twenty students' brains while taking the same test

## Brain after sitting quietly



## Brain after 20 minute walk



Research/scan compliments of Dr. Chuck Hillman University of Illinois

Slides taken from article by Charles H. Hillman, Matthew B. Pontifex, Lauren B. Raine, Darla M. Castelli, Eric E. Hall, Arthur Kramer, "The Effects of Acute Aerobic Exercise on the Cognitive Control of Attention and Academic Achievement in Pre-Adolescent Children" Neuroscience, pp 1044-1054, February 3, 2009 (on line)

For More Information Contact: Paula Purdue at [paula@youradvocates.net](mailto:paula@youradvocates.net)



## **Fit Kids Learn Better**

The following are excerpts from *Spark, The Revolutionary New Science of Exercise and the Brain*. The author is one of the worlds' leading researchers on the study of the brain and learning, John J. Ratey, MD

**"In a study by Charles Hillman of the University of Illinois, the electroencephalogram (EEG) showed more activity in fit kids' brains, indicating that more neurons involved in attention were being recruited for a given task." (Pg.25)**

**"..... exercise has a profound impact on cognitive abilities and mental health." (Pg.7)**

**"One study from Virginia Tech showed that cutting gym class and allowing more time for math, science and reading did not improve test scores, as so many administrators assume it will." (Pg. 21)**

**"When we exercise, particularly if the exercise requires complex motor movement, we're also exercising the areas of the brain involved in the full suite of cognitive function." (Pg. 41)**

**"Exercise improves learning on three levels: first, it optimizes your mind-set to improve alertness, attention, and motivation; second, it prepares and encourages nerve cells to bind to one another, which is the cellular basis for logging in new information; third, it spurs the development of new nerve cells from stem cells in the hippocampus." (Pg. 53)**

**LET'S GET OUR STUDENTS FIT AND ACTIVE SO THAT THEY CAN  
LEARN BETTER!**

**Please support efforts to promote daily physical education and to increase physical activity for Illinois' young people.**