

The Impact of Nutrition & Exercise on Student's Lives

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PE Fit

"Today's generation may be the first in U.S. history to live shorter lives than their parents."

Cass Wheeler, CEO, American Heart Association

Why are our students at risk?

- ▶ The percentage of overweight school-age children has tripled since 1980
- ▶ 33% of adolescents are overweight
- ▶ Another 33% are at risk for becoming overweight
- ▶ 2/3 of our students are at risk for developing health & learning problems
- ▶ 80% of overweight/obese teens will become overweight adults...experts fear an exponential increase in heart disease, strokes, cancer and other health problems as early as the twenties for these individuals
- ▶ Inactivity...many students of "normal weight" still have a high percentage of body fat due to lack of physical activity
- ▶ Extremes in physical activity participation:
 - Year round athlete...no breaks...not necessarily healthy either!
 - Dance, gymnastics or martial arts participation
 - NO PHYSICAL ACTIVITY AT ALL OUTSIDE OF SCHOOL!
- ▶ Children & teens eat a diet consisting mostly of processed, fat & sodium laden, nutrient-deficient food.
 - Junk food
 - Fast food
 - Soft drinks
 - Coffees & energy drinks
 - Only 4% of American teens eat the recommended servings of fruit and vegetables daily.
 - ½ of teen's calories come from snack & junk food
 - the average teen is drinking only one glass of milk/day but several glasses of soft drinks/day

Health problems that result from obesity:

- ✓ Painful joints
- ✓ Growth plate effects...Blounts Disease & Slipped Capital Epiphysis
- ✓ Gallstones
- ✓ Asthma/breathing problems...including sleep apnea
- ✓ Build-up of pressure in fluid around the brain..."Pseudotumor Cerebri"
- ✓ Insulin resistance
- ✓ Fatty liver disease...recurrent abdominal pain, infection & fatigue
- ✓ Hormonal changes
- ✓ Metabolic syndrome...increases the risk of diabetes five times...three times more likely as an adult to have a heart attack or stroke
- ✓ ADD, ADHD, OCD, ODD, depression and other psychological disorders



Many doctors, researchers & experts agree:

- ▶ **Environmental factors are contributing to the decline in the health of our children!**
 - ▶ **Breakdown in traditional family**
 - ▶ **Sedentary lifestyles...lack of physical activity**
 - Teens average 23 hours of TV viewing/week
 - Additional “screen time” includes texting, video/computer games, internet, email...etc...
 - The only physical activity most teens get each day is in physical education class
 - Families...Moms...are inactive...Jason’s story...
 - Research has found that as physical activity has been reduced during the school day, students have become less active outside of school hours
 - Research has found, however, that the students are more likely to be active following an active school day
 - ▶ **Increased exposure to processed food...about 90% of American’s food budget is spent on processed/junk food**
 - Food – consumed by an animal or human to keep it alive and enable it to grow
 - Processed food/Junk Food – any food that contains plenty of calories but very few vitamins, mineral, essential fatty acids or fiber ...full of chemical preservatives, stabilizers, artificial flavors and colors... fortified with “man-made nutrients” to replace what the processing has stripped away...and many contain appetite stimulating additives
 - “Junk Food Generation”
 - Eating junk food has become a normal part of life for many teens...thanks to marketing!
 - Most teens do NOT eat vegetables daily
 - ▶ **Dramatic dietary changes...less natural or whole foods**
 - Even though the teens are consuming large amounts of food and may even be obese or overweight...they may still be hungry.
 - Why?
 - Their bodies can be full of food and still be lacking in the essential nutrients need for their bodies to run efficiently.
 - So...they are truly hungry!
 - And they may also be thirsty...
 - Many teens are dehydrated
 - Dehydration can make one ‘feel’ hungry
 - Some of my students drank NO WATER!
 - 2% dehydration can cause a 20% decrease in mental and physical performance
 - ▶ **Pesticides and pollutants**
 - ▶ **Lack of sleep**
- ▶ **These same factors are negatively affecting the ability of our students to reach their full potential academically!**
- ▶ **The Brain...**
 - ▶ Did you know that brain cells are not replaced like other cells in the body?
 - ▶ Brain cells are very demanding and for optimal performance they need a wide array of nutrients
 - ▶ The brain is the first organ to suffer as a result of malnutrition
 - ▶ Did you know that the brain is composed largely of fat?
 - ▶ Toxic dietary fats...found in fried foods, trans fats, saturated fats, etc...are readily assimilated into brain cells
 - ▶ Processed foods also contribute toxic molecules
 - ▶ The toxic molecules can limit, reduce or alter brain function and our teen’s ability to learn!

Are you ready for some good news?

We can help reverse the adverse effects of a poor diet and physical inactivity on our students!

Research...again...backs this up!

Let's start with diet...

- ▶ OPTIMUM PERFORMANCE REQUIRES OPTIMUM NUTRITION!
 - ▶ Natural, nourishing foods can increase the size, fluidity and strength of brain cells...this will increase the number of information sending and receiving sites found on neurons
 - ▶ Eating wholesome, natural foods can improve the physical functioning of the brain which will **improve a person's mood, attitude, behavior and intellectual capabilities**
 - ▶ The metabolism of a well-nourished child is more **efficient...burns more calories at rest which helps stabilize body weight**
 - ▶ It's simple...really...follow the Food Guide Pyramid!
 - ▶ Eat a variety of whole, nutritious foods
 - ▶ Fruits
 - ▶ Vegetables
 - ▶ Whole grain carbohydrates
 - ▶ Protein
 - ▶ Dairy
 - ▶ Water
 - ▶ Healthy fats
 - ▶ Americans have "Portion Distortion"
 - Fast food and restaurant meals have been "Super Sized"
 - On average Americans eat an extra 150 more calories per day than 20 years ago
 - That adds up to at least an extra 15 pounds per year...depending on activity level
 - Helping students understand proper portions sizes is a must!
 - ▶ Soft Drinks...Coined as "liquid candy"
 - ▶ 12oz soda contains as many as 12 tsp of sugar
 - 12oz soda contains as many as 7 tsp of sodium
 - NOT THIRST QUENCHERS
 - The added sodium actually stimulates thirst
 - 8oz of soda/day = 6 pounds gained/year
 - 12oz of soda/day = 10 pounds gained/year
 - 20 oz of soda/day = 25 pounds gained/year
 - 6-pack soda/day = 100 pounds gained/year
- This weight gain would occur if these were additional calories and no adjustments were made to diet or activity level.
- ▶ **EVERYONE NEEDS TO EAT BREAKFAST!**
 - The brain needs the fuel to jump start the day
 - Skipping breakfast diminishes learning capacity, memory, causes some kids to be hyperactive, while others will be depressed and creates grumpy moods!
 - Breakfast needs to include a complex carbohydrate + protein = optimum performance
 - ▶ Any ideas?
 - ▶ Maintain blood sugar and energy levels throughout the day by eating three meals and a couple of healthy snacks!

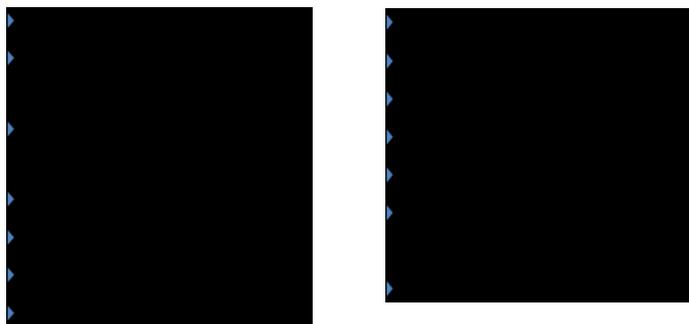
On to Exercise

- ▶ “Aerobic activity can transform not only the body but the mind.” *SPARK*
- ▶ “Research shows that physical activity sparks biological changes that encourage brain cells to bind to one another. For the brain to learn, these connections must be made; they reflect the brain’s fundamental ability to adapt to challenges” *SPARK*
- ▶ “Exercise provides an unparalleled stimulus, creating an environment in which the brain is ready, willing and able to learn.” *SPARK*
- ▶ Aerobic exercise helps all of the body systems learn to adapt...it helps regulate systems that are out of balance and enhances those systems that are not
- ▶ Aerobic exercise increases neurotransmitters, creates new blood vessels and creates new cells and connections
- ▶ Complex motor activities strengthen and expand the brain’s networks
- ▶ Aerobic activity + complex motor activities = new brain circuits that will also be used for thinking!
- ▶ BETTER FITNESS = BETTER ATTENTION = BETTER RESULTS
- ▶ California Dept of Education’s research found that students with the highest fitness scores also had higher test scores
- ▶ Research also found that a reduction of 240 minutes/week in class time to increase physical activity led to consistently higher math scores!
- ▶ An Ohio State University study found that exercising to music may stimulate and increase cognitive arousal while helping to organize cognitive output
- ▶ Exercise can also help the brain and body deal with the damaging effects of stress
- ▶ Strengthens heart and lungs
- ▶ Tones muscle
- ▶ Raises metabolism
- ▶ Increases flexibility
- ▶ Reduces stress
- ▶ Improves mood
- ▶ Reduces anxiety
- ▶ Reduces insomnia
- ▶ Improves self-esteem
- ▶ Improves body-image
- ▶ Helps with weight maintenance/reduction

“By losing weight and gaining health, there is no end to the amount of self-esteem that can be gained. Giving children something they can do for themselves in terms of nutrition that they know is right gives them self-esteem just by knowing they’ve made the right decisions when it comes to food. That in and of itself can help raise self-esteem levels to new heights.”

Fred Pescatore, MD

Small Changes = Big Results



Ohio State and Dennison Universities found:

- ▶ Teaching teens how to create their own exercise programs is the best way to get them active...during an 8-week program...
- ▶ Students took one class period each week to plan after school activities that involved exercise
- ▶ Before the program, 50% were not active outside of school
- ▶ After the program, only 10% were not active outside of school...so 90% were active!

So...what can we do as educators?

- ▶ Never underestimate the impact you have on your students!
- ▶ That said...be a role model for healthy eating and physical activity for your students!
- ▶ Let them see you eating a healthy lunch!
- ▶ DON'T DRINK SODA AT SCHOOL!
- ▶ Let them see you exercising!
- ▶ So if you are not active or eating a healthy diet...it's time to make some changes!

At School...so many ideas...

- ▶ Activity breaks can improve concentration skills and classroom behavior!
- ▶ Take short activity breaks during the day...
 - Stretching
 - Yoga
 - Juggling
 - Singing with motions
 - Reviewing facts with motions
 - Short walks through halls or outside
 - Games to review for quizzes/tests
 - Be creative!
- ▶ Pedometer challenge
- ▶ Water coolers in hallways
- ▶ Before school running/fitness clubs
- ▶ Wellness Wednesdays...change up activities/goals
- ▶ Vending machines...improve options
- ▶ Family fitness nights
- ▶ Nutrition & activity logs
- ▶ Healthy fund raising activities
- ▶ Recreation time at lunch
 - Organized games
 - Organized fitness activities
 - Walking/running club
- ▶ Incorporate assignments in other subjects that encourage exercise and good nutrition
- ▶ Support the efforts of the physical education teachers
- ▶ Get your administration on board!
- ▶ Encourage other teachers to become more active and eat healthier
- ▶ Encourage students, parents, community and teachers to participate in road races, charity events, hiking, biking, outdoor activities, swimming, etc.
- ▶ Look for local businesses that will sponsor events or donate prizes for student participation in activity or nutrition challenges

Just do something...

- ▶ The childhood/teen obesity and inactivity crisis in the USA will not be solved by government intervention!
- ▶ Our kids don't have time to wait for that...
- ▶ We have to start today to teach our children and teens how to live a healthy life!
- ▶ Health care reform in the USA will only happen when individuals are actively engaged in the habits of healthy living!
- ▶ **PLEASE**...take some of what you have learned today and help your students and others in your world take steps to a healthier mind, body and spirit!

Physical Activity Goal:

- ▶ NASPE (National Association for Sport and Physical Education) recommends
 - A minimum of 60 minutes to several hours a day of physical activity
 - This can be cumulative...not all at one time
 - Extended period of inactivity greater than 2 hours during the day is discouraged
 - Physical activity needs to be moderate to vigorous in nature...get the heart & lungs pumping and a sweat going
 - Moderate activities:
 - ▶ Brisk walking
 - ▶ Bicycling
 - ▶ Playing actively
 - ▶ Dancing
 - ▶ Yoga
 - Vigorous activities:
 - ▶ Jogging
 - ▶ Jumping rope
 - ▶ In-line skating
 - ▶ Skate boarding
 - ▶ Swimming



Thank you for your time and attention!

Please visit PE Fit

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Betty is available for professional development workshops and consultation for improving the wellness climate of your school.



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