

Managing Healthy Living in Youth - Teaching Healthy Living in the Early Years -

Many highly publicized news articles are presenting a very dire health picture for today's youth. According to a 2007 New England Journal of Medicine research study, obesity rates in children ages 6 to 11 have more than doubled in the past 20 years. In 1980, obese children represented 6.5% of the population - in 2006 this number grew to 17.0%. The obesity rate among adolescents ages 12 to 19 tripled from 5% to 17.6%. These increases are representative of a nation of children that are spending more time watching TV, playing with electronic games and computers, eating unhealthy food and spending less time on physical activity. In a recent CNN article (Author: John Blake – November 2009), Russell Pate, who is the American Heart Association (AHA) spokesman, stated that he noticed a number of key signs that children are not as active as in previous decades. One of these key signs was noted during a recent drive through a local neighborhood - far fewer children are actively enjoying outdoor activities.



Source: Ehow.com

According to the New England Journal of Medicine, youths that are considered “obese” are more likely to have risk factors for cardiovascular disease (CVD). These factors may include high cholesterol and/or high blood pressure. Research completed by the New Journal of Medicine indicates that obese youth are more likely to have bone and joint problems, as well as sleep apnea. They have higher risks of experiencing social and psychological issues including stigmatization around others of normal weight and lack of self-esteem. Children and adolescents considered obese are also more likely to be obese in their adult years. This leads to greater chances of heart failure and stroke, and also increases the risk of cancer and diabetes.

A recent article highlights another important aspect of managing healthy living in children and adolescents. As reported in the article, “South Carolina Healthy Schools – Healthy Children Learn Better”, schools that focus on developing healthy eating and exercise habits for their children are rewarded with students that are more alert, more focused on learning and experience fewer absences during the school year.

Healthy schools provide programs and an environment where children and adolescents learn and practice healthy behaviors that help students avoid the six risk behaviors that lead to

chronic and acute conditions, such as Type II diabetes, obesity, teen pregnancy, HIV/Sexually Transmitted Infections, and disabilities caused by injury.

South Carolina Healthy Schools (SCHS) initiative has become a model to combat obesity in the state’s general school population. South Carolina is ranked as one of the top “obese populations” for both adults and adolescents. The Healthy Schools” concept focuses on improving the health of students and school staff by creating synergies between the eight components of school health that are based on the Center for Disease Control’s eight component model. The goal is to promote healthy school environments which in turn will foster academic achievement.

The following table highlights a number of these key issues. Expectations are that if the schools staff addresses these issues it will enhance their overall health and increase learning in students.

Adolescent Health

During the transition from childhood to adulthood, adolescents establish patterns of behavior and make lifestyle choices that affect both their current and future health.

Asthma

On average, in a classroom of 30 children, about three are likely to have asthma. About 5.6 million school-aged children and youth are reported to currently have asthma, and asthma is one of the leading causes of school absenteeism.

Childhood Obesity

The prevalence of obesity among children ages 6 to 11 has more than doubled in the past 20 years, going from 6.5% in 1980 to 17.0% in 2006. Several chronic disease risk factors are related to childhood overweight and obesity, including high blood pressure and high cholesterol. Additionally, obese young people have a great likelihood of becoming obese adults and developing diseases associated with adulthood, such as type 2 diabetes and heart disease.

Nutrition

Healthy eating is associated with reduced risk for many diseases, including the three leading causes of death: heart disease, cancer, and stroke. In 2007, only 21.4% of high school students reported eating fruits and vegetables five or more times daily (when fried potatoes and potato chips are excluded) during the past 7 days.

Physical Activity

As children get older, participation in physical activity. Overall, in 2007, 35% of 9-12 graders had participated in at least 60 minutes per day of physical activity.

Source: South Carolina Healthy Schools/CDC



The following page provides a current hands-on case study incorporating health into the curriculum both as an education on healthy living while also as a career choice.

Case Study – Health Science Educator Careers based on the Utilization of Body Composition

Improving Community Health through Body Composition as a Career Choice -

Many Health Science Technology (HST) educators understand the enormous opportunities in healthcare. As a HST educator with healthcare provider experience, I try to bring relevant learning opportunities and experiences into the classroom. One very affordable short and long-term project we at James Island Charter High School are working on is *childhood obesity with body composition analysis*.



We utilize the RJL Quantum Analyzer BIA machine (www.rjlsystems.com) to measure and manage body composition within the classroom, physical education departments, student body, and community. Our hope is to be fully funded with grants or industry contributions. The HST students are trained under national and state learning standards with respect to academic knowledge, employability skills, legal responsibilities, safety practices, teamwork, health maintenance practices, information technology and technical skills.



Scott Becker, DC
Health Science
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As HST students become more proficient with the RJL BIA machine, I have noticed an increase in student confidence, awareness of a clinical setting, and relevance of information generated by the RJL BIA machine. The mission statement in our class is “What can be Measured can be Managed.” Our short-term goal is to improve the health of the student body by making them aware of their body composition over a period of time. Our long term goal is to improve the health of the community in the same respect.

The long term community project is a way to offer the students a hands-on work experience as well as a fund raiser for the HOSA Club (Health Occupations Students of America Club). We promote our Weight Management Class within the Adult Education/Community Education programs. The students will begin to realize the business side of healthcare with respect to marketing and management. “My plan is to create a work experience for my health science students so that they can be confident in the work place.”



James Island (SC) Health Science
Students utilizing RJL Analyzers.



Through hands-on education, students improve understanding of one's own health.

About RJL Systems - www.rjlsystems.com - RJL Systems invented/engineered the BIA Analyzer and holds U.S. registered patents on the devices. RJL Systems is known as the premier manufacturer of Bioelectrical Impedance Analysis (body composition) instruments, both domestically and internationally. The distinguished legacy of RJL Systems began with its founding by Rudolph J. Liedtke in 1979. RJL Systems revolutionized the BIA industry through FDA clearance of the BIA Analyzer as a Class II Medical Device in 1983. Over the course of the past three decades, RJL Systems has developed an outstanding reputation for engineering and manufacturing Bioelectrical Impedance Analysis instruments of the highest quality, accuracy and repeatability. RJL Systems has delivered its instruments to institutions in every corner of the globe. RJL Systems has sold more than 15,000 BIA Analyzers, and sales volumes are steadily increasing as preventative care, wellness, research, and weight management programs become more popular. Along with RJL Systems as the premier analyzer manufacturer, Mr. Liedtke is highly relied upon as the foremost expert in the application of bioelectrical impedance analysis for numerous alternative applications.



Today, RJL Systems continues its long history of research and development, design, engineering, manufacturing and distribution of scientific instruments of the highest quality with an ongoing objective of technical innovation. It produces a complete line of BIA instruments under the Quantum brand. In addition, RJL Systems produces software and accessories for its analyzers and custom engineering and instruments for a variety of customers.

RJL Systems is committed to securing FDA clearances for all of its products and software. These self-imposed commitments to the highest standards of quality and ethics have served to create a legacy without equal in the industry. In fact, more than 1,000 abstracts and peer review articles have been written about BIA using RJL Systems instruments.

RJL Systems is registered as an ISO 9001:2000 certified company and is ISO 13485:2003 compliant (13485 - for medical devices).

Education	Hospitals
Medical	Government
Fitness	Chiropractic

Client Base - Today, RJL Systems' technological advances are the benchmark, or “gold-standard” within the BIA instrument industry. The company’s BIA Analyzers are the instruments of choice for scientists, researchers, clinicians, physicians, and other medical professionals whether they are in health care practices/institutions, educational, governmental, or industrial settings.

31 out of the Top 50 America’s Best Colleges, Special Edition magazine, purchased BIA devices from RJL Systems. This represents a 68% penetration of market share. The list mentioned above names 124 colleges and universities. RJL has provided BIA system solutions to 73 out of 124 or 59% of those institutions.

Source: U.S. News & World Report