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ACSM's Certified News



AMERICAN COLLEGE
of SPORTS MEDICINE
www.acsm.org

OCTOBER/NOVEMBER/DECEMBER 2005

VOLUME 15; ISSUE 4

News you need! Certification Updates

Fall 2005

by: Mike Niederpruem, National
Director of Certification and
Registry Programs

Mark Your Calendar for the Upcoming December Recertification Deadline

As many of you know from previous issues of *ACSM's Certified News*, we are in a continuous state of change and optimization here within the Certification Department at ACSM. By the time you read this column, we should be well underway with the BETA testing of the new, computer-based versions for both the ACSM Health/Fitness Instructor® (HFI) and ACSM Exercise Specialist® (ES) exams. These exams will run through mid-December this year, or whenever we reach approximately 100 candidates on each exam (whichever comes first). If you have an employee, student, or work associate that may be interested in sitting for the BETA version of either exam, please encourage them to contact Gretchen Dovenmuehle, our new Certification Coordinator, at (317) 637-9200, ext. 121. The cost of participation is \$99, and note that this opportunity is specifically for those individuals who do not yet hold one of these ACSM credentials (eligibility requirements apply).

Next, many of you are preparing your recertification materials for the upcoming December deadline. Please remember that your recertification application is due on or before December 31, 2005. Also, please remember that for all recertifying ACSM professionals (and new, 2005 credentialed professionals) the recertification window is now three years in duration, as opposed to four. The number of CECs required per credential has been prorated accordingly. You should be receiving (if you haven't already) additional reminders both via e-mail and regular mail. You are encouraged to contact Traci Rush, the Certification Manager here at ACSM, if you have any specific questions regarding the recertification process, at (317) 637-9200, ext. 126.

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Overweight and At Risk for Overweight Among Youth: An Evolving American Tragedy?

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Introduction

In 2002, the prevalence of objectively measured overweight (defined as a body mass index or BMI between 25 and 29.9) and obesity (defined as a BMI of 30 or greater) among U.S. adults was 34 percent and 31 percent, respectively.¹⁵ This represents a doubling of obesity among adults since 1986.¹⁵ In addition, the percentage of adults classified as severely obese increased from 2.9 percent to 5.1 percent between the years 1988 and 2002.¹⁵

Among youth the statistics parallel those of adults with 16.5 percent of children and adolescents between the ages of 6 and 19 years classified as overweight (> the 95th percentile on CDC growth charts) and another 15 per-

cent at risk for overweight (between the 85th and 95th percentile). Since the 1960s, overweight among youth ages 6 through 19 has tripled. Among children 2-5 years of age, the prevalence of overweight increased from 7.2 percent to 10.4 percent between 1988 and 2000.¹⁵ State-specific data showed that in 1989, 11 states reported that greater than 10 percent of 2-4 year old children from low-income families were overweight compared to 28 states in 2000. Finally, compared with several industrialized nations, the prevalence of overweight and at risk for overweight among American youth is significantly greater.

Ogden *et al.* recently presented data showing trends in mean bodyweight, height and

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body mass index from the National Health Examination (NHES) and National Health and Nutrition Examination Surveys (NHANES) between 1960 and 2002.

Height also increased but much less than weight in all age groups. For example, mean height among men and women 20+ years of age increased by 1 inch, from 68 to 69 inches for men and 63 to 64 inches for women. Mean BMI increased from 25.3 to 28.1 in men and from 24.7 to 28.0. Mean waist circumference also has increased from 95.3 to 98.2 cm and 88.7 to 92.2 among U.S. men and women, respectively.¹¹

Recently medical spending attributable to obesity has been estimated to be \$92.6 billion in 2002 dollars (9.1 percent of total US medical expenditures in 1998) and between 112,000 to 350,000 deaths per year appear to be attributable to overweight and lack of physical activity.^{9,10} These trends led Olshansky et al to predict that children born in 2000 would lose two to five years of lifespan due to the increased prevalence of overweight-related diseases such as coronary artery disease and Type 2 diabetes. These are alarming trends leading some experts to suggest that nearly 100 percent of Adult Americans will be obese by 2058 and 100 percent of children by 2044.²

Co-Morbidities Associated with Youth Overweight

Overweight among youth is a major risk factor for chronic diseases such as Type 2 diabetes mellitus, dyslipidemia, hypertension, and atherosclerosis.

METABOLIC SYNDROME

In 2001, the Adult Treatment Panel of the National Cholesterol Education Program provided a clinical definition for the metabolic syndrome.⁸

It is estimated that four percent of all youth and 30 percent to 50 percent of overweight children have the MetS.^{5,6} Weiss et al reported that every 1/2 unit increase in BMI (from 23 to 23.5 for example) in overweight children and adolescents was associated with approximately a 50 percent increase in the risk of the MetS.

TYPE 2 DIABETES MELLITUS

Concomitant with the rise in the prevalence of overweight and the MetS has been a parallel increase in the rates of Type 2 Diabetes Mellitus (TD2). According to NHANES III (National Health and Nutrition Examination Survey III), the prevalence of TD2 among U.S. adolescents was 4.1/1000 adolescents, more than double the prevalence of Type 1 Diabetes Mellitus (TD1) which was 1.7/1000 adolescents.⁶

This trend is particularly disturbing in light of studies showing that diabetes in adults is a Coronary Artery Disease risk equivalent.⁸ In addition, a study of markedly overweight adolescents and children (BMIs >30) found that 25 percent and 21 percent, respectively, had impaired fasting glucose and three percent of adolescents had undiagnosed TD2.

INFLAMMATION, ENDOTHELIAL DYSFUNCTION, AND CVD ABNORMALITIES

Recent studies have demonstrated elevated blood levels of inflammatory markers and impaired endothelial function among overweight youth and children.¹² The significance of these findings are particularly troubling considering inflammation and endothelial dysfunction are early markers of the onset and progression of atherosclerosis.

Both the Muscatine and Bogalusa studies of youth and young adults have shown convincingly that overweight among youth is associated with major risk factors for cardiovascular disease including high triglycerides and LDL-cholesterol, low HDL, hypertension, left ventricular hypertrophy, and impaired glucose tolerance.^{1,18}

In the Bogalusa study, researchers reported that a higher BMI among 15-34 year old adolescents and young adult men was associated with more extensive fatty streaks and raised atheromas in coronary arteries.¹ Other studies have shown that a higher BMI is associated with increased coronary artery calcium and carotid artery intimal medial thickening.²⁰ On a positive note, several recent studies have demonstrated that weight loss and exercise training in overweight youth improved risk factors for CVD, inflammation, and endothelial dysfunction.¹²

Psychosocial Abnormalities

In addition to the well-documented metabolic and cardiovascular consequences of overweight in youth, numerous psychosocial abnormalities have been identified.

Pine et al demonstrated that adults with major clinical depression had higher BMIs as youth than non-depressed adults.²⁵ Goodman et al also reported that depression scores were highest at one-year follow-up among children who experienced the greatest increase in BMI.¹³

Other studies have demonstrated that overweight children and adolescents have compromised peer relationships. Overweight youth, for example, have fewer friends and are more isolated than normal weight youth. Overweight youth are ostracized and teased more than normal weight youth, which has been shown to be associated with an increasing frequency of suicidal ideations and suicide attempts.⁷

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ACSM's Certified News (ISSN# 1056-9677) is published quarterly by the American College of Sports Medicine Committee on Certification and Registry Boards (CCRB). All issues are published electronically and in print.

The articles published in *ACSM's Certified News* have been carefully reviewed, but have not been submitted for consideration as, and therefore are not, official pronouncements, policies, statements, or opinions of ACSM. Information published in *ACSM's Certified News* is not necessarily the position of the American College of Sports Medicine or the Committee on Certification and Registry Boards. The purpose of this newsletter is to inform certified individuals about activities of ACSM and their profession and about new information relative to exercise and health. Information presented here is not intended to be information supplemental to the *ACSM's Guidelines for Exercise Testing and Prescription* or the established positions of ACSM.

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ISSN # 1056-9677

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Clearly overweight among youth is associated with numerous physical and psychological consequences that track into adulthood. The childhood overweight and diabetes epidemics are threatening to reverse the remarkable gains in lifespan achieved by medical sciences during the 20th century. The president of the Robert Wood Johnson Foundation, Risa Lavizzo-Mourey, M.D., MBA, recently was quoted as saying "we are in danger of raising the first generation of American children who will be sicker and die younger than the generation before them."

Prevention of Overweight Among Youth

Treatment of overweight among youth cannot be neglected because treatment can reverse the related medical disorders and reduce the risk of adult obesity. However, the long-term solution lies in prevention or the avoidance of overweight during youth. Numerous organizations have recently produced statements and guidelines that address the prevention of youth overweight.^{4,6,17}

Effective prevention of overweight among youth will involve the collaboration of parents, schools, and governmental agencies. Both population and individual-oriented approaches will be required. Population approaches focus on environmental redesign and policy changes. For example, increasing the availability of fruits and vegetables in high risk, lower socioeconomic neighborhoods may increase their consumption thereby improving health and wellness. Local planning and zoning policies that discourage "urban sprawl" and encourage more dense multi-use developments may increase levels of physical activity by increasing the number of trips made by non-motorized transportation (biking, walking, wheelchair propulsion).

In this issue of ACSM's *Certified News*, the articles are focused on programs designed to increase physical activity and improve food choices and nutrition among youth. Melinda Hemmelgarn, MS, RD, LD, discusses the influence of media on food choices and eating behavior. Ms. Hemmelgarn's comments will shed light on the negative influences that media and advertisement often have on food choices and consumption and what we as parents and citizens can do to counter these influences. Studies show that youth ages 8-18 years spend more than eight hours per day exposed to media.¹⁶ Numerous studies have shown that more "screen" time is associated with a higher prevalence of overweight among youth.^{4,6,14,17} Recently several articles in the *Archives of Pediatric and Adolescent Medicine* found that learning and academic performance are negatively influenced by excessive exposure to TV and other media.³

The article by Avery Feigenbaum, Ph.D., a

well-respected expert in youth resistance training (RT), will discuss the role of RT in promoting youth health and fitness. RT has a particular potential to positively influence bodyweight in youth because of its unique capacity to increase lean body mass and improve the lean to fat tissue ratio. Dr. Feigenbaum's article also provides recommendations and guidelines for implementing and enhancing the safety and effectiveness of RT programs in youth.

Finally, Ian Thomas, Ph.D., Project Director of the Robert Wood Johnson Active Living by Design "Bike Walk Wheel: A Way of Life in Columbia" project in Columbia, Missouri will discuss a unique program called "Passport to Fitness." This program was implemented last winter in several of Columbia's public and private schools. It was designed to increase physical activity levels among youth. The program attracted 1,700 participants.

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Note: Additional references may be obtained from the ACSM National Center.

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- October 20-21, Central States Chapter, Kansas City, Missouri**
Contact: Greg Kandt, Ed.D., (785) 628-4371, gkandt@fhsu.edu
- November 10-11, New England Chapter, Providence, Rhode Island**
Contact: Dino Costanzo, (860) 224-5888, neacsm@nbgh.org
- November 11-12, Southwest Chapter, Las Vegas, Nevada**
Contact: Jack Young, Ph.D., FACSM, (702) 895-4626, jyoung@ccmail.nevada.edu
- November 11-12, Mid-Atlantic Chapter, Harrisburg, Pennsylvania**
Contact: W. Craig Stevens, Ph.D., (610) 738-0497, wstevens@wcupa.edu

**Changes/Corrections**

The self-test answer key for the July-September 2005 issue of ACSM's *Certified News* was incorrectly printed. Below is the corrected self-test answer key. The ACSM Education Department is aware of this correction and will score the self-tests with the updated key.

- Test #1: 1. T 2. C 3. D 4. B 5. C
- Test #2: 1. C 2. F 3. T 4. E 5. T
- Test #3: 1. B 2. D 3. C 4. A 5. A
- Test #4: 1. B 2. B 3. B 4. D 5. B

Youth Strength Training: Facts, Fallacies and Program Design Considerations

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All children need to participate regularly in physical activities that enhance and maintain cardiovascular and musculoskeletal health. While children have traditionally been encouraged to participate in aerobic activities such as swimming and bicycling, a compelling body of evidence indicates that strength training can also be a safe and effective method of exercise for children provided that appropriate guidelines are followed^{3,6}. Despite the previously held contention that children would not benefit from strength training due to insufficient levels of circulating androgens, research conducted over the past decade clearly demonstrates that children may indeed ben-

efit from strength training activities⁹. The qualified acceptance of youth strength training by medical and fitness organizations is becoming universal^{1, 2, 5} and current public health objectives discussed in the Surgeon General's report entitled Physical Activity and Health aim to increase the number of children age six and older who regularly participate in physical activities that enhance and maintain muscle strength, muscle endurance and flexibility¹⁴.

Although a growing number of boys and girls are strength training in schools, fitness centers, and youth sport camps, some parents have lingering concerns about the safety of

Table 1. Youth Strength Training Guidelines

- Provide qualified instruction and supervision
- Ensure the exercise environment is safe and free of hazards
- Teach children the benefits and concerns associated with strength training
- Begin each session with a 5 to 10 minute warm-up period
- Start with one light set of 10 to 15 repetitions on a variety of exercises
- Progress to 2 or 3 sets of 6 to 15 repetitions depending on needs and goals
- Perform 8-12 exercises for the upper body, lower body and mid-section.
- Increase the resistance gradually as strength improves
- Focus on the correct exercise technique instead of the amount of weight lifted
- Strength train two to three times per week on nonconsecutive days
- Use individualized workout logs to monitor progress
- Keep the program fresh and challenging by systematically varying the training program.

youth strength training. And Health/Fitness Instructors, Personal Trainers, and Registered Clinical Exercise Physiologists are often asked to provide up-to-date information on strength training guidelines for children. Furthermore, health professionals are frequently asked if the potential benefits of youth strength training outweigh the risks. Unfortunately, the correct answers to these common questions are often obscured by the myths surrounding this type of training for youth. The purpose of this article is to dispel these myths, discuss the potential benefits and concerns associated with youth strength training, and highlight program design considerations for children who want to lift weights. In this article, the term strength training refers to a specialized method of physical conditioning that involves the use of a wide range of resistive loads and a variety of training modalities (*e.g.*, dumbbells, weight machines, medicine balls and body weight exercises) designed to enhance or maintain muscular fitness.

Myths That Won't Quit

Questions regarding the safety and efficacy of youth strength training should be answered by systematically reviewing the related scientific literature instead of heeding the emotional reaction to case study reports and anecdotal observations. Raising the discussion to this level will reveal that competently supervised and well-designed youth strength training programs can be a safe and effective method of conditioning for boys and girls. Five of the most prevalent myths associated with youth strength training are discussed below:

MYTH: STRENGTH TRAINING WILL STUNT THE GROWTH OF CHILDREN.

Fact: Scientific findings indicate no evidence of a decrease in stature in children who regularly perform strength exercise in a controlled environment. In all likelihood, regular participation in strength training activities will

Youth Strength Training... Continued from Page 4

have a favorable influence on growth at any stage of development but will not affect the genotypic maximum.

MYTH: CHILDREN WILL EXPERIENCE BONE GROWTH PLATE DAMAGE AS A RESULT OF STRENGTH TRAINING.

Fact: A growth plate fracture has not been reported in any prospective study that was competently supervised and appropriately designed. Interestingly, some clinicians believe that the risk of a growth plate fracture in a prepubescent child is actually less than in an older child because the growth plates of younger children actually may be stronger and more resistant to shearing-type forces.

MYTH: CHILDREN CANNOT INCREASE STRENGTH BECAUSE THEY DO NOT HAVE ENOUGH TESTOSTERONE.

Fact: Testosterone is not essential for achieving strength gains, as evidenced by women and elderly individuals who experience impressive gains in strength even though they have little testosterone. When compared on a relative or percent basis, training-induced strength gains in children are comparable to older populations.

MYTH: STRENGTH TRAINING IS UNSAFE FOR CHILDREN.

Fact: With appropriate supervision and instruction, the risks associated with strength training are not greater than other activities in which children regularly participate. The key is to provide close supervision, age-specific instruction and a safe training environment. However, as with all types of physical activity, accidents can happen if children do not follow established training guidelines and adhere to safety rules.

MYTH: STRENGTH TRAINING IS ONLY FOR YOUNG ATHLETES.

Fact: While strength training can enhance the performance of young athletes, regular participation in a youth strength training program can also offer observable health value to boys and girls of all abilities. For example, strength training can enhance the bone mineral density of girls at risk for developing osteoporosis and can spark an interest in physical activity in overweight children who dislike prolonged periods of aerobic exercise.

Potential Benefits of Youth Strength Training

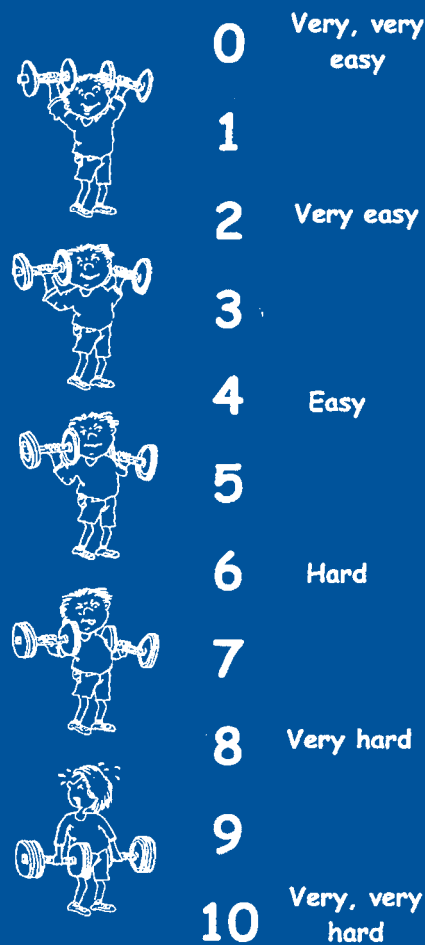
Research studies indicate that appropriately prescribed and competently supervised youth resistance training programs may offer observable health and fitness value to boys and girls⁴. In addition to increasing muscular strength, muscular power and local muscular

endurance, participation in a youth strength training program has the potential to positively influence cardiorespiratory fitness, body composition, blood lipids, insulin sensitivity, bone mineral density, motor performance skills, and selected psychological measures⁴. Moreover, a growing body of evidence suggests that carefully planned youth strength training programs may improve the body composition of overweight children and reduce the risk of injury in young athletes^{12,13}.

As the number of overweight children continues to increase¹⁵, the effects of strength training on body composition have received increased attention. Although aerobic exercise is typically prescribed for decreasing body fat, it appears that regular participation in a strength training program can have a favorable influence on the body composition of overweight children¹³. It seems that overweight youth enjoy strength training because it is not aerobically taxing and it gives all participants — regardless of body size and fitness ability — a chance to experience success and feel good about their performance. Unpublished data from our youth strength training center indicates that children's training heart rates (measured via Polar Vantage XL monitors) during 30 to 40 minutes of strength-building activities typically wax and wane between 130 and 150 beats per minute. While further study is warranted, it seems that strength training with moderate loads and a high number of repetitions may be part of the solution for long-term fat loss and weight management in overweight boys and girls.

Another contemporary benefit of youth strength training may be its ability to improve the preparedness of aspiring young athletes for the demands of sports practice and competition. In the United States, millions of boys and girls participate in school and community-based programs. But along with this remarkable interest in youth sport has been a concomitant increase in the number of sports-related injuries due to ill-prepared and improperly trained young athletes¹⁰. While factors such as growth, improper footwear, and hard playing surfaces have been implicated as risk factors for overuse injuries in youth¹⁰, the background physical activity level of young athletes must also be considered. Fewer youth are exposed to physical education than in the past and sedentary pursuits such as television viewing and 'surfing the internet' continue to occupy a significant amount of a youngster's free time. According to some observers, an estimated 50 percent of all overuse injuries sustained by youth while playing sports could be prevented if more emphasis was placed on the development of fundamental fitness abilities prior to sports participation¹². While the total elimination of sports-related injuries is an unrealistic goal, encouraging young athletes to participate in

Figure 1 - Perceived Exertion for Children (PEC) Scale (from reference 7)



several weeks of preparatory conditioning (which includes strength training) before sports participation merits consideration.

Risks and Concerns

The belief that strength training is unsafe for children is not consistent with the needs of boys and girls and the documented risks associated with this type of training. There is no scientific evidence to suggest that the risks and concerns associated with youth strength training are greater than those of other sports and recreational activities in which children regularly participate.

Nevertheless, youth strength training programs must be competently supervised, properly instructed and appropriately designed. Instructors must be aware of the inherent risks associated with strength training and should attempt to decrease this risk by following established training guidelines. It is impor-

Youth Strength Training... Continued from Page 5

tant to keep in mind that children should not strength train on their own without guidance from a qualified instructor who understands the physical and psychological uniqueness of children.

Instructors should be careful to match the strength training program to the needs, interests and abilities of each child. An advanced strength training program for a young athlete would be inappropriate for an inactive child who should be given an opportunity to experience the enjoyment of different types of strength exercise. In any case, it is always better to underestimate the physical abilities of a child rather than overestimate them and risk negative consequences (e.g., dropout or injury).

Program Design Considerations.

It is important to understand that children are not simply miniature adults. While most children and adults enjoy physical activity, children are active in different ways and for different reasons. Watching children on a playground supports the premise that children are active in short bursts of physical activity followed by periods of rest and recovery. Children seem to have a more challenging time increasing their $\text{VO}_{2\text{max}}$ as compared to adults, but can make remarkable gains in muscular strength¹¹. Moreover, when compared to adults who can be highly specialized in either aerobic or anaerobic fitness, children are often regarded as “metabolic non-specialists” with respect to athletic training¹¹. As such, Health/Fitness Instructors who work with youth should appreciate the fact that the strongest child may also record the best time in the one mile run.

In addition, children have less testosterone than adults and have smaller muscle fibers¹¹. Thus, training-induced gains in strength in youth are primarily due to neuromuscular factors (e.g., enhanced motor unit recruitment and firing) as opposed to muscle hypertrophy¹¹. As such, Health/Fitness Instructors should not expect children to be as strong as adults nor should they suggest to young weight trainers that strength training will make their muscles bigger (beyond growth and maturation).

Although there is no minimum age for participating in a youth strength training program, children should have the emotional maturity to accept and follow directions and should appreciate the benefits and concerns associated with this mode of exercise. If a child is ready for participation in some type of sport activity (generally age seven or eight), then he or she may be ready to strength train. While the long-term goals of a youth and adult strength training program may be the same (i.e., performance enhancement and

injury reduction), the focus of youth programs should be on skill development and having fun. Prescribing a program that exceeds a child's capabilities may undermine the enjoyment of the strength training experience.

A variety of strength training programs have been developed and recommended for children. Different types of equipment and various combinations sets and repetitions have proven to be safe and effective. It has been recommended that children strength train two or three days per week on nonconsecutive days and perform one to three sets of 6 to 15 repetitions on a variety of exercises that focus on the major muscle groups⁵. However, when beginning a strength training program, performing a single set of 10 to 15 repetitions per exercise twice per week will not only allow for positive changes in muscle strength, but will also provide an opportunity for participants to gain confidence in their abilities before progressing to more advanced levels. Table 1 highlights general youth strength training guidelines.

One of the most serious mistakes in designing a youth strength training program is to prescribe a training intensity that exceeds a child's capacity. In our program, we use a verbal-pictorial scale (called the Perceived Exertion for Children scale) to aid in the prescription of the strength training intensity⁷. The scale contains verbal expressions along a numerical response range from 0 to 10 and five pictorial descriptors that represent a child at varying levels of exertion while lifting weights (Figure 1). We observed that as the intensity of the strength exercise progressed from 35 percent to 55 percent to 75 percent of one repetition maximum (1 RM), the perceived level of exertion increased from an average rating of 2.0 to 4.6 to 7.0, respectively⁷. While additional research is needed, an effort rating of six or seven on this scale can safely and effectively be used to aid in the estimation of 75 percent 1 RM that is a desirable training range for children.

Over time, continual gains can be made by gradually increasing the weight, the number of repetitions, or the number of sets. On average, a 5 percent to 10 percent increase in training load (two to five pounds) is appropriate for most exercises. Once the desired number of repetitions can be performed, the weight can be gradually increased and the repetitions decreased to allow for continual gains. This does not mean every workout needs to be more intense or voluminous than the previous session, but over time the demand placed upon the body should be gradually increased. Detailed information on designing youth strength training programs is available⁸.

Summary

While no evidence indicates that youth strength training programs are ‘riskier’ than other sports and activities in which youth regularly participate, strength training is a specialized method of conditioning that requires qualified supervision, appropriate overload, gradual progression, and adequate recovery between exercise sessions. When designing youth strength training programs, it is important to remember that the goal of the program should not be limited to increasing muscle strength. Teaching youth about their bodies, promoting safe training procedures, and providing a stimulating program that gives participants a more positive attitude towards strength training and physical activity are equally important.

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SELF-TEST ANSWER KEY FOR PAGE 11

	QUESTION				
	1	2	3	4	5
TEST #1:	A	B	C	D	B
TEST #2:	B	D	D	C	D
TEST #3:	B	C	D	A	B
TEST #4:	B	A	C	A	C

Coaching News



Take Time for Preparation

This is the ninth edition of the Coaching News column, sponsored by Wellcoaches Corporation in alliance with ACSM, and it appears regularly in ACSM's *Certified News*. This article was written by Gabrielle R. Highstein, Ph.D., RN, who is an ACSM Health/Fitness Instructor®, certified wellness coach, and behavioral psychology researcher at Washington University School of Medicine.

Applying principles of established psychology models is a powerful way to improve coaching skills. This column focuses on the Pros of change, one of the variables of the Transtheoretical Model of Behavior Change (TTM) (Prochaska & DiClemente, 1983), which equates to the Values foundation block of the Wellcoaches Pyramid of Change — see <http://www.wellcoach.com/images/wellcoaches.pyramid.pdf>.

The pyramid's foundation of building blocks is made up of:

- Self-awareness & responsibility
- Knowledge - benefits & information
- Values (motivators or Pros)
- Understanding major obstacles
- Strategies to overcome major obstacles

One of the clear messages of the TTM and the Pyramid is that people do better at accomplishing behavior change if they are well prepared before they start. These foundations of change need to be valued by you as a coach for your client to invest time and energy in preparing for change.

Most importantly, the science has shown that until the Pros outweigh the Cons people don't change. So it behooves us to help our clients find a strong, personal Pro or Value — something near and dear to their hearts.

How can you help your clients identify and connect to a powerful PRO, to help them make lasting change?

Helping your Client Find Powerful Personal Motivators

When a client comes to me full of enthusiasm to make some healthy change my first response is "Great. Let's explore whether you are really ready." Science has taught us a lot about how to go about making a successful

change. It is my job to help you make sure you are ready."

I want to hear the story of what changes my client wants to make and why my client wants to make them now. I am looking for a strong, personal motivator. I want to hear something concrete that my client wants. If my client can't tell me anything specific or talks in generalities about wanting to be healthier, then s/he may not be ready.

A great technique to help a person get focused is to ask your client to visualize - close your eyes and think about who you want to be in one, two, or five years. What does this person look like? What do you value? What can she do? How does she feel? What is her mindset?

For example, one of my clients said that she wanted to look like she does now only with a little flatter stomach and she wants to be just as active as she is now. Then she said "You know what I really want. I want to eat so well that I don't have to worry about my weight."

I said "Excellent. What kind of behavioral goals do we have to set to get you there? What are you going to have to work on to reach this vision?"

She said "I do regular exercise already but I will have to keep that up and maybe up the level. And I am going to have to do something about learning how to eat right so weight will not be a worry."

I responded by asking her if she could come up with two concrete three-month behavioral goals around exercise and eating. We wanted goals that stretched her but did not overwhelm her. After some discussion she decided that by three months she would be exercising vigorously enough that she would be sweating at 15 minutes into the session and work for at least 30 minutes seven days a week, and she would be writing down everything she eats.

So are we ready to plunge in and get her started doing these behaviors? Not yet. There is a lot of practical prep work to be done first. Do we have our big motivator now? Yes — she wants to look 35 when she is 40 and she wants to no longer worry about her weight because she eats well. How do we operationalize these motivators? How do we measure them? We have to help her drill down to something concrete and specific.

She has exercised before and expresses confidence that she can exercise regularly. So I query what she likes about exercising? What does it do for her? She says when she exercises she get a good night's sleep. She likes the way her body shape changes when she does strength training. She laughs and says that she looks a lot better in her bathing suit when she has been strength training a lot. I ask her if she has any plans in the next three months of getting into a bathing suit. She says yes, that her husband has a conference in Florida and she is going along. I ask if that would be

a good motivator: to get ready for the Florida trip. Her eyes light up and she says she would love that. I am happy that we have found another concrete motivator to keep her on track as she meets the many obstacles to establishing a new health habit.

Is she ready to go now? No. We have not yet explored the other foundation blocks of the pyramid, her Obstacles, Strategies, Self-awareness & responsibility. Nor have we talked at all about the knowledge she needs to eat healthily. But for the exercise behavior we have accomplished a critical step: Find Strong, Personal Motivators (Pros or Values).

Remember to take time to help your clients lay the foundation to support change that will last over time.

Go to www.wellcoach.com for more information on Wellcoaches and its coach training and certification programs for health and fitness professionals.

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Whether it's upcoming dates, home study opportunities, or upcoming conferences, you will find the latest continuing education information in the ACSM Calendar of Events at www.acsm.org/meetings/calendar.htm. Calendar entries include conferences endorsed by ACSM that offer continuing education credits, as well as general non-ACSM approved programs that have been submitted to our office.

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"Passport to Fitness": A Physical Activity Challenge for Youth

Ian Thomas, Ph.D.

Executive Director, The PedNet Coalition, Columbia, Missouri

Project Director, Robert Wood Johnson Foundation Active Living by Design "Bike Walk, Wheel: A Way of Life in Columbia" grant project, Columbia, MO



In January, 2005, a new physical activity challenge program was launched in Columbia, MO. The purpose of the program, titled "Passport to Fitness," was to engage and motivate youth (aged 5-15) to adopt more physically active lifestyles. Participants were offered incentives for tracking their daily, weekly, and monthly minutes of physical activity and achieving a specified minimum target. More than 1,700 children at 16 schools participated in the program and about 550 of them achieved the target level of a minimum of 240 minutes of physical activity per week, over a three month period (February through April of 2005).

The PedNet Coalition and the Columbia Mayor's Council on Physical Fitness and Health (MCPFH) developed the program. It was funded by the Robert Wood Johnson Foundation (RWJF) through an Active Living by Design (ALbD) project being implemented in Columbia, Missouri titled "Bike, Walk, Wheel: A Way of Life in Columbia (BWWWLC). Passport to Fitness built upon previous physical activity challenge programs, in which participating children were given calendar-style logging forms set up for recording physical activity minutes over a one-month period. In the Passport to Fitness program, logging forms for an eight-month period (January - August, 2005) were bound together in a booklet along with health, fitness, and nutrition information. Limited staff time and a significant volunteer effort went into writing and editing the pocket-sized Passport to Fitness booklet, designing the program, and

promoting it throughout Columbia's schools.

In December 2004, school PTAs (Parent Teacher Student Associations) were contacted and several presentations were made by members of the MCPFH and the BWWWLC grant team. In order to participate in the program, a commitment was required from each school that a PTA volunteer, teacher, or school office staff member would co-ordinate the program at that school. Registration forms were distributed to participating schools, and registered students received packets containing a water bottle, the Passport to Fitness booklet, and various other items of health information. A news release about the program was issued and local journalists were contacted, leading to several radio interviews and a full-page article in the *Columbia Daily Tribune*. The broad media coverage helped insure a positive response from schools. Eleven public schools and five private schools participated, from which a total of more than 1,700 children registered for the program.

Corporate sponsor Boone Hospital Center agreed to print the 36-page booklets. Other sponsors were the Empire Roller Rink (a privately owned roller-skating business) and the Activity and Recreation Center (ARC — the City of Columbia's public recreation center). Both of these organizations provided free or reduced-price day passes to their facilities, which were then included in the prize packets.

To win a prize packet, a student was required to maintain an average of 240 minutes of physical activity per week (the minimum recommended by the U.S. Centers for

Disease Control and Prevention, National Association of Sports and Physical Education, American College of Sports Medicine, the Institute of Medicine, and other associations) over a three-month period. Any sustained physical activity qualified. The booklet included cartoons of kids engaging in walking, running, biking, swimming, weightlifting, soccer, basketball, dance, jump-roping, yard work, vacuuming, and other activities. January was the enrollment month with the challenge period from February 1 through April 30. Each month, participants received a special stamp in their booklets if they achieved the target, and students with stamps for all three months qualified for prizes. Elementary school children received a certificate, a medal and a free pass to the roller rink, while middle and junior-high students received a certificate, a duffel bag, and a free pass to the recreation center. A total of about 550 (33 percent) participants successfully completed the program.

In most schools, children and families were personally required to record their physical activity minutes every day. However, at one school, the physical education teacher registered the entire third, fourth and fifth grades for the program and required them to update their booklets in class, as a way to raise awareness about their personal physical activity levels.

The program will be repeated in 2005-2006 with a few modifications, most of which have been adopted to streamline administration. The new Passport booklet includes logging pages for a full twelve months (September, 2005 — August, 2006) and is divided into a fall challenge (September - December), a winter challenge (January - April), and a summer challenge (May - August). There is more emphasis on children becoming self-motivated to be physically active. The prizes are intended to "keep them interested," rather than being the main purpose of participation. There will be two "prize months" (October, during the fall challenge, and March, during the winter challenge), when the Passport booklets will be stamped at school and successful students will receive prizes. The summer challenge is designed to encourage the children to appreciate the benefits of exercise for their own sake. Community programs and opportunities for summer physical activity are listed in the booklet.

With a view to the future of the program, Columbia Public Schools has expressed an interest in adopting the "Passport to Fitness" program as part of the elementary school P.E. curriculum in fall, 2006. If this takes place, it will be a good example of a successful pilot project being developed with seed money and then becoming an institutionalized program.

Media Literacy: An Innovative Approach for the Prevention and Management of Childhood Obesity

Melinda Hemmelgarn, M.S., R.D., L.D.
Food and Society Policy Fellow
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Columbia, Missouri



Eat less, move more. If only the solution to childhood obesity was that simple. In fact, there are many factors contributing to our nation's childhood overweight epidemic¹ and most reach far beyond personal choice.

For example, Kelly Brownell, director of the Yale Center for Eating and Weight Disorders, and author of *Food Fight, The Inside Story of the Food Industry, America's Obesity Crisis and What We Can Do About It* (2004, McGraw Hill), describes our environment as "toxic" in that we have ready access to cheap, tasty, calorically-dense foods.

In an effort to capture lifelong, loyal consumers, such "obesogenic" foods are brilliantly marketed to children through an ever-growing assortment of savvy, and predatory media outlets^{2,3} to the tune of approximately \$10 to \$12 billion dollars per year⁴. Unfortunately, health educators have a mere fraction of that to deliver messages about eating more fruits and vegetables, and enjoying more physical activity⁵.

Consider these figures. In 2000, McDonald's spent \$665 million on food advertising. In 2002, Coke, Diet Coke, Pepsi and Mountain Dew spent nearly \$500 million on advertising. In 2003, the Center for Disease Control and Prevention's VERB Campaign budget was \$51 million, and the

National Cancer Institute's communication budget for its 5-A-Day program to promote fruits and vegetables totaled 3.5 million^{5,1}. When you compare the dollars spent by the food and beverage industry to our paltry allowance in public health, you quickly recognize the uneven playing field.

Now consider genetic predisposition to gain weight, and children's preference for fatty, sweet and salty foods⁶ as the loaded gun. The variety of society's toxic environments then pulls the trigger. Socioeconomic status, access to healthful foods, the built environment, and media exposure all potentially influence the risk for developing obesity^{7,8,9}.

For example, a child living in poverty is more likely to live in an unsafe neighborhood, with less green space, greater access to fast food, and reduced access to fresh fruits and vegetables. This same child is more likely to spend more time with the media, which further promotes foods inconsistent with dietary guidelines^{7,4}. No wonder minority and low income children are disproportionately affected by obesity⁷.

Several years ago I had a revelation. After 20-plus years in the admirable profession of dietetics, I realized that the majority of consumers weren't making food and beverage choices based on my recommendations, the USDA's food guide pyramid or other national dietary guidelines. Instead, they were more influenced by highly successful multi-billion dollar marketing campaigns.¹⁰

It is estimated that U.S. children may view between 20,000 to 40,000 commercials each year, the majority of which are for fast and processed foods high in fat, sugar and salt^{4,11}.

The connection between TV viewing and obesity is thought to be related more to children's exposure to food advertising, and concurrent snacking while watching, than to the physical inactivity associated with TV viewing.

The American Academy of Pediatrics and U.S. Centers for Disease Control and Prevention recognize media's influence on children's food choices and bodyweight and recommend a two-fold approach to limiting media influence:

1. Limit viewing time to no more than two hours per day of high quality screen time; no TV in bedrooms; turn TV off while eating; and,
2. provide media literacy education.¹²

Media Literacy education is a counter-balance to unhealthful messages about "junk" food, as well as tobacco, alcohol and violence. It is not media bashing. Rather it recognizes media as enjoyable, but teaches youth to be skeptical, as opposed to cynical. It results in critical thinking and empowerment in the marketplace¹².

Following are the basic principles for critical analysis of media messages^{12,13}:

1. All media messages are constructed and scripted for some purpose.
2. Media constructs reality, conveys values, and shapes our understanding of the world.
3. Each person interprets media messages uniquely. There are no "wrong" interpretations.
4. Media are driven by profit within economic and political contexts.

At the heart of media literacy for children and teens are the following:

Awareness. Help children become aware of the messages surrounding them. Point out messages at sporting events, branded products placed in movies and video games, or branded items in classrooms.

Analysis. Help children ask questions, such as: Who created this message and why? What do you think this message wants us to do? Why were these actors selected to deliver the message?

Evaluate the message. Do you notice any bias in age, race, sex or ethnicity? Is this reality? What is included in the message and what is left out?

Expression. Teach children to create their

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own messages. Young children can draw and write their own stories; older children can take pictures and create videos.

Of course media literacy education varies for preschoolers compared to older children and teens. But basically, we should start media education when exposure to media begins, by setting limits and asking simple questions such as: "Who is the storyteller?" "Why do we have rules about watching TV?" "Why do you think there are commercials on TV?" "Do we need any of the advertised product, and if so, why?" As holiday season nears, it is best to avoid purchasing branded toys, dolls, and counting books with images of branded fast and processed foods.

Part of our goal as parents and health educators is to help children become active, healthy citizens in a democracy. That includes learning how to question and recognize marketing techniques used to persuade children to buy products that are not in their best interests. I encourage ACSM certified exercise professionals to become more involved in policy making processes. Work with city councils, and school boards; get to know state and national legislators and keep them informed about health-related issues and the importance of correcting toxic environments that contribute to the childhood obesity epidemic.

Summary: If we continue with more of the

same personal-choice based "eat less, exercise more" messages without attention to policies that drive and support poor choices, we will do little to stop the virulent epidemic that promises to shorten the lives of younger generations¹⁴. Media literacy education and advocacy are innovative tools we can use to help prevent obesity. Remember, it takes a family, village, state and nation to raise a healthy child¹⁵.

About the author:

Melinda Hemmelgarn is a registered dietitian, newspaper columnist, and Food and Society Policy Fellow. She is a member of the American Dietetic Association, the Society for Nutrition Education, and the Alliance for a Media Literate America. She is committed to helping consumers think beyond their plate, vote with their forks, and understand the value of sustainable agriculture. Hemmelgarn conducts media literacy workshops across the country; her weekly "Food Sleuth" column has appeared in the Columbia Daily Tribune since 1989. Hemmelgarn is married and has two children in college. She enjoys swimming, canoeing, and biking. You can read about her work and that of the other Food and Society Policy Fellows at: www.foodandsocietyfellows.org/pages/individual_fellows/fellows-bio.cfm?people_id=57. Reach her at: foodsleuth@mchsi.com

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SELF-TEST #1 (1 CEC): The following questions were taken from "Overweight and At Risk for Overweight Among Youth: An Evolving American Tragedy?" published in this issue of *ACSM's Certified News*, pages 1-3.

- Approximately what percentage of youth between the ages of 6 to 19 years are considered overweight and at risk for overweight in the United States?
 - 31.5%
 - 5%
 - 15.5%
 - 50%
- Girls, 12-17 years of age gained a mean of _____ lbs between 1960 and 2002.
 - 2 lbs
 - 12 lbs
 - 25 lbs
 - 24 lbs
- All of the following are criteria for identifying the Metabolic Syndrome in youth except which one?
 - Waist circumference of >90th percentile for age, gender, and ethnicity
 - Triglycerides of >110 mg/dl
 - <50 HDL-cholesterol for girls age 12 or under
 - <40 HDL-cholesterol for both genders
- According to the study by Sinha et al discussed in the article, what percentage of overweight (>30 BMI) youth have impaired fasting glucose?
 - 3%
 - 5%
 - 10%
 - 21% to 25%
- According to a Kaiser Family Foundation study, many youth between the ages of 8 to 18 years spend _____ hours per day exposed to media.
 - 2
 - 8
 - 1
 - 18

- Which of the following is a potential benefit of youth strength training?
 - Improve blood lipid profile
 - Increase resistance to sports injury
 - Improve body composition
 - All of above
- At what age can children begin strength training?
 - Age 6
 - Age 9
 - Age 12
 - When they have the emotional maturity to accept and follow directions
- Which of the following strength training guidelines is recommended for children?
 - Start with one set of 6 to 8 repetitions on a variety of exercises
 - Progress to 3 to 5 sets of 10 to 15 repetitions depending on needs and goals
 - Increase the resistance by 5-10% as strength improves
 - Strength train four to five times per week
- Which of the following is most responsible for training-induced strength gains in children?
 - Muscle hypertrophy
 - Muscle hyperplasia
 - Increased muscle density
 - Improved neuromuscular functioning

- How many commercials are youth exposed to each year?
 - 100
 - 5,000
 - 100,000
 - 20,000 to 40,000
- All EXCEPT which one of the following recommendations regarding limiting media influence on youth are recommended by the American Academy of Pediatrics and the Centers for Disease Control and Prevention?
 - watching TV while eating
 - no TV in bedrooms
 - no more than 2 hours high quality screen time per day
 - provide media literacy education
- Critical analysis of media messages includes all of the following EXCEPT which one?
 - all media messages are scripted for some purpose
 - each person interprets media messages the same
 - media are driven by profit within economic and political contexts
 - media constructs reality and conveys values helping to shape our understanding of the world

SELF-TEST #2 (1 CEC): The following questions were taken from "Youth Strength Training: Facts, Fallacies and Program Design Considerations" published in this issue of *ACSM's Certified News*, pages _____.

- Which of the following statements is true?
 - Strength training can stunt the growth of children
 - Strength training can enhance the bone strength of children
 - Strength training is unsafe for children under age 10
 - Strength training is only for young athletes

SELF-TEST #3 (1 CEC): The following questions were taken from "Media Literacy: An Innovative Approach for the Prevention and Management of Childhood Obesity" published in this issue of *ACSM's Certified News*, pages 9-10.

- According to the article, the Centers for Disease Control and Prevention in 2003 had a \$_____ million budget for promoting the VERB (exercise promotion program) program?
 - \$665
 - \$51
 - \$10
 - 500 million
- All EXCEPT which one of the following factors potentially negatively influence the risk for developing obesity among youth?
 - socioeconomic status
 - access to healthful foods
 - access to exercise trails
 - media exposure

SELF-TEST #4 (1 CEC): The following questions were taken from "The Female Athlete Triad: Are Elite Athletes at Increased Risk?" published in *Medicine & Science in Sports & Exercise*, Volume 37, Number 2, pages 184-193, 2005. This journal is necessary to answer the following questions. To access this article, check with your local library; or do a 'Quick Search' by entering the article title on the *MSSE* Web site below. After the abstract portion of the article is retrieved, click PDF (267K) under 'Links' to see the article in its entirety. <http://www.acsm-msse.org>.

- Which of the following sports would fall into the category, leanness sports?
 - endurance, aesthetic, power sports, and technical sports
 - aesthetic, weight class, endurance, and antigravitation sports
 - ball game, technical, endurance, and antigravitation sports
- One of the first stages in the development of amenorrhea is:
 - a shortened luteal phase
 - a long follicular phase
 - a short follicular phase
- Which of the following instruments has been found to be suitable for use as a screening criterion for eating disorders in a nonclinical setting?
 - Eating Disorder Inventory- Drive for Thinness subscale
 - Eating Disorder Inventory- Drive for Thinness subscale
 - both A and B have found to be good screening instruments
- In the results of the survey to 669 athletes and 607 control participants, Torstveit and Sundgot-Borgen (2005) found:
 - a higher percentage of controls (69.2%) vs. athletes (60.4%) were considered to be at risk of the Triad
 - a higher percentage of athletes (69.2%) vs. controls (60.4%) were considered to be at risk of the Triad
 - There was no difference in the risk of developing one of the sign or symptoms of the triad between athletes and controls
- Regarding menstrual dysfunction, Torstveit and Sundgot-Borgen (2005) found:
 - a higher percentage of athletes vs. nonathletes reported menstrual dysfunction when combining leanness and nonleanness groups
 - athletes competing in nonleanness sports reported the same amount of menstrual dysfunction as controls
 - both A and B are true



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Tip: Frequent self-test participants can find their ACSM ID number located on any credit verification letter.

Certification Updates... Continued from Page 1

Finally, the following information is a review of candidate participation and pass rates for the ACSM Health/Fitness Instructor® and ACSM Exercise Specialist® credentials, for the one-year periods of 2003 and 2004. Please note that the "credentials awarded" represents only those candidates who successfully passed both the written (w) and practical (p) components of their respective credential exam.

ACSM Health/Fitness Instructor®

	Total Candidates (w)	Pass Rate (w)	Total Candidates (p)	Pass Rate (p)	Total Credentials Awarded
2004	1,730	61%	1476	84%	1,029
2003	1,883	61%	1699	85%	1,148

ACSM Exercise Specialist®

	Total Candidates (w)	Pass Rate (w)	Total Candidates (p)	Pass Rate (p)	Total Credentials Awarded
2004	313	56%	282	46%	121
2003	366	62%	309	83%	231

Additionally, candidate participation and pass rates for the new ACSM certified Personal TrainerSM credential is as follows (December, 2004-August 15, 2005):

ACSM certified Personal TrainerSM

Total Candidates (p)	Pass Rate (p)	Total Credentials Awarded
657	71%	466

This information is currently provided, and will continue to be made available in the future, as one of the requirements of obtaining and maintaining accreditation by the National Commission for Certifying Agencies (NCCA).



**AMERICAN COLLEGE
of SPORTS MEDICINE**
www.acsm.org

**ACSM'S Certified News ISSN # 1056-9677
P.O. Box 1440
Indianapolis, IN 46206-1440 USA**

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