

Including Strength Training in Your Physical Activity Plan

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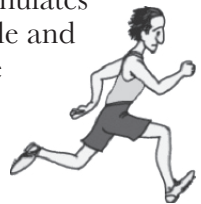
INTRODUCTION

In the last two decades there has been an increasing concern of the health consequences associated with a US population that was largely sedentary. As a result, in 1995, the American College of Sports Medicine (ACSM) and the Centers for Disease Control and Prevention issued a public health message to encourage increased participation in physical activity. As a minimal level of physical activity, it was recommended that, "Every US adult should accumulate 30 minutes or more of moderate intensity physical activity on most, preferably all, days of the week." In 2005, more than one-half of the US population failed to meet the minimal physical activity guidelines. In August of this year, the ACSM and the American Heart Association updated the previous recommendation based on current knowledge of the type, intensity and amount of physical activity required to improve health and quality of life. The updated recommendation clarifies the 1995 statement and includes additional recommendations not previously addressed. In order to promote and maintain health and physical independence, it is currently recommended that all healthy adults aged 18-65 need 30 minutes or more of moderate intensity physical activity 5 d/wk or 20 minutes or more of vigorous physical activity 3 d/wk. In addition, as a minimum, adults should perform activities that maintain or improve muscular strength and endurance on at least two non-consecutive days of the week. This should include 8-10 exercises that focus on the major muscle groups using a resistance that results in substantial fatigue (not failure) after 8-12 repetitions of the exercise.



BENEFITS OF STRENGTH TRAINING

Strength training increases muscular strength and endurance, increasing the ease of performing daily living activities and increasing the variety of physical, recreational and sports activities that one can participate in and enjoy. Strength training and other activities that maintain muscular strength and endurance also maintains or increases lean muscle mass, reduces the risk of injury during non-leisure time physical activity, stimulates bone formation in young adults and decreases the rate of bone loss in middle and older aged adults. An increase in muscle mass is thought to enhance glucose metabolism. Maintenance of bone density and mass helps decrease the risk of osteoporosis and osteopenia. An overall increased energy expenditure from aerobic and muscle strengthening physical activities helps maintain a health body weight and composition.



MODIFYING YOUR CURRENT ACTIVITY PLAN

If you have concerns about your health, risk factors for cardiovascular, metabolic, or pulmonary disease, or have symptoms during exertion, confer with your doctor before beginning or increasing your physical activity levels. The ACSM specifically recommends strength training to improve muscle strength and endurance. Strength training can include various methods (i.e., free weights, machines, elastic cords and tubing) of exerting force against a resistance through a functional range of motion. Body weight should generally not be used as a form of resistance (e.g., bar dips, pullups, pushups) in the early

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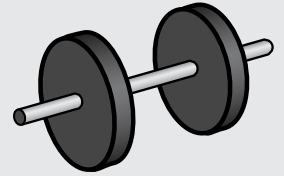
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stages of strength training or with overweight individuals because it represents too great of a resistance. Exercises can be selected based on your current level of familiarity with strength training, availability of equipment, and personal goals and limitations. One set of exercises for all of the major muscle groups (i.e., legs, shoulders, chest, back, arms, abdominals) can be done in a safe and controlled functional range of motion in less than 30 minutes with 2-3 minutes rest between exercises. Performing one set of each exercise using a light weight serves as a warm-up before completing the recommended 8-12 repetitions to fatigue. Exercises to develop core strength (i.e., abdominals and lower back) should be included in all exercise programs. Strength training should begin with an adequate warm-up period and end with stretching. Aerobic type physical activity can be included before or after strength training. For greater improvements in strength, increase the frequency of strength training, the number of sets, or the number of exercise performed for each muscle group.

Is Strength Training Safe for Children?

Strength training can be a family-based physical activity. Children and adolescents should engage in age- and developmentally-appropriate activities that develop all the components of physical fitness—including muscular strength and endurance. A well supervised strength training program generally imposes no greater risk than participating in recreational activities and sports. It is important not to place undue stress on the epiphyseal (growth) plates before skeletal maturity occurs by using an inappropriate combination of frequency of training, resistance, or number of sets and repetitions. Some exercises which potentially have an extreme range of motion, such as bar dips and dumb bell or machine flies, should be completed in a limited range of motion.

The key to preventing injury in children and adolescents is mature, responsible coaching and supervision. Indiscriminant and unsupervised strength training is not recommended for children and adolescents. There is no predefined age at which children can begin to participate in a well organized and supervised strength training program. At a minimum, children who wish to strength train should be able to accept and follow directions. Generally, if a child is able to participate in an organized sport, he or she is capable of participating in a conditioning program that includes strength training. Strength training programs for children should not rely on one form of training, but instead include a variety of physical activities that develop muscular strength and endurance. Children should learn proper technique of each exercise using a light resistance before adding resistance. Learning new movement patterns with a light resistance helps develop necessary balance and coordination. Children should begin strength training by selecting exercises that represent simple (rather than complex) movement patterns.



Some strength training equipment can easily accommodate children. If a machine cannot be adjusted for the size of the child or the weight increments are too large, use dumbbells, elastic bands or cords. A review of the literature indicates that children should begin by using a resistance that permits 1-2 sets of 12-15 repetitions to fatigue (not failure), 2-3 days per week. Resistance can be increased when the child can perform 15-20 repetitions easily. Finally, although children tend to focus on one or two muscle groups, they should be encouraged to include exercises for all the major muscle groups including the core (abdominals and lower back) and to include stretching as part of their exercise program.

Upcoming Events

BRIGHAM YOUNG UNIVERSITY WELLNESS PROGRAM

- SEPTEMBER 10** Blue and White Fitness Bowl begins
- SEPTEMBER 11–13** Cholesterol, Glucose and PSA screenings
- SEPTEMBER 21** Well & Wise—Weight Loss Tips That Work II
- SEPTEMBER 28** 3K Fun Walk—Diet and Nutrition



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