

BEGIN A STRENGTH TRAINING PROGRAM



AOSSM SPORTS TIPS

WHAT IS STRENGTH TRAINING?

Strength training is the use of resistance (free weights, resistance bands or machines) in conjunction with body movements to increase the strength of muscles. Strength training is an important component of any exercise program.

BENEFITS OF STRENGTH TRAINING

- Increases muscle strength and endurance
- Enhances the cardiovascular system
- Increases flexibility
- Injury prevention
- Assists in maintaining a healthy body fat percentage
- Improved sports performance

WHAT EQUIPMENT IS NEEDED TO STRENGTH TRAIN?

A variety of equipment is available to strength train. Equipment includes free weights, resistance bands and strength training machines. Free weights include dumbbells and weights attached to bars. Free weights allow for greater variability in weight amount including very light weights which may be required for novice trainers. In addition, they can accommodate greater variations in body size and type. Resistance bands have similar advantages to free weights. They are also easy to transport on vacation or on business trips. However, very heavy resistance is more difficult to achieve with this equipment.

Strength training machines can combine multiple exercises or a single exercise. The weight on these machines is more controlled and may decrease the risk of injury during some exercises. Other equipment that may be helpful in starting a program includes weight belts, lifting gloves and supportive athletic shoes.

GETTING STARTED

It is important to check with your doctor before beginning a strength training program, particularly if you have any significant medical problems or physical limitations. If you have musculoskeletal issues, check with a sports medicine specialist or orthopaedic surgeon to make sure that the strength training program will not aggravate the problem. An exercise professional such as a certified athletic trainer, sports physical therapist, a personal trainer or a strength and conditioning coach can be helpful in designing a safe, individual and appropriate strength training program.

Your goals for strength training will determine the type of program you will want to initiate. In general strength training should be performed at least 2-3 times a week. Increasing the frequency of workouts will result in faster strength increases. Rest periods between training days are important for proper muscle healing. Unless you have other restrictions, perform 8 to 10 exercises starting with the larger muscle groups first.

The number of sets and repetitions of each exercise is also important. A set consists of an exercise repeated multiple times without rest. The repetitions

(or reps) is the number of times an exercise is performed in a set. A good starting point is to perform 2-3 sets of 8-10 repetitions. Proper technique is extremely important. You should perform a full range of motion in a controlled manner. Movements should be fluent and controlled. Fast movements should be avoided. Take care to breath appropriately through the exercise and always use a spotter when lifting heavy weights, particularly when performing a bench press or squat.

Building strength will allow you to progress in your program. You can progress by increasing the frequency of your workout, the number of repetitions and sets or the amount of weight. Gradual increases are recommended to avoid injury to muscles and joints. Rest periods between strength training sessions for a particular muscle group are necessary to allow muscles to recover and rebuild.

STRENGTH TRAINING FOR THE ELDERLY

Strength training in the elderly is important for maintaining range of motion of joints, flexibility and strength. Goals for strength training should emphasize functional improvement and not just strength of muscles. Programs should be individualized and take into account cardiovascular fitness and musculoskeletal issues. Supervision is also important to ensure proper technique and avoid injury. All elderly individuals should have a complete history and physical program prior to starting any exercise program.

STRENGTH TRAINING FOR CHILDREN AND ADOLESCENTS

Strength training in children and adolescents can promote healthy habits and improve performance by improving coordination and motor skills. Self image, self esteem and bone health may be improved with strength training. Children and adolescents who participate in a strength training program should be supervised at all times. Prior to starting a program for a child or adolescent a health care professional such as a pediatrician should be consulted.

IMPORTANT TIPS

- Do not strength train alone, if possible.
- Use a spotter when appropriate.
- Wear appropriate clothing.
- Use mirrors, if available, to monitor lifting technique.
- Keep strength training area clean and free of debris.
- Stay well hydrated.
- Get adequate rest.
- Eat sensibly.

REFERENCES:

American College of Sports Medicine: ACSM Position Stand: "Progression Models in Resistance Training for Healthy Adults." *Medicine & Science in Sports & Exercise*. 2002;34:364-380

Expert Consultant:

Sharon L. Hame MD



Sports Tips are brought to you by the American Orthopaedic Society for Sports Medicine. They provide general information only and are not a substitute for your own good judgment or consultation with a physician. More information on this and other orthopaedic sports medicine topics is available at www.sportsmed.org.

AOSSM thanks Pfizer Inc for its generous support of the "Sports Tips" series.

A world leader in sports medicine education, research, communication and fellowship.



Copyright © 2006. American Orthopaedic Society for Sports Medicine. All rights reserved.