



ACSM Information On...

Selecting and Effectively Using Rubber Band Resistance Exercise

Originally used to train older adults in nursing homes, flexible resistance bands now provide exercise options for exercisers and athletes. The more you know about resistance bands, rubberized cords and the machines that use them, the better you'll be able to choose the method that's right for you.

A COMPLETE PHYSICAL ACTIVITY PROGRAM

A well-rounded physical activity program includes aerobic exercise and strength training exercise, but not necessarily in the same session. This blend helps maintain or improve cardiorespiratory and muscular fitness and overall health and function. Regular physical activity will provide more health benefits than sporadic, high intensity workouts, so choose exercises you are likely to enjoy and that you can incorporate into your schedule.

ACSM's physical activity recommendations for healthy adults, updated in 2011, recommend at least 30 minutes of moderate-intensity physical activity (working hard enough to break a sweat, but still able to carry on a conversation) five days per week, or 20 minutes of more vigorous activity three days per week. Combinations of moderate- and vigorous-intensity activity can be performed to meet this recommendation.

Examples of typical aerobic exercises are:

- Walking
- Running
- Stair climbing
- Cycling
- Rowing
- Cross country skiing
- Swimming.

In addition, strength training should be performed a minimum of two days each week, with 8-12 repetitions of 8-10 different exercises that target all major muscle groups. This type of training can be accomplished using body weight, resistance bands, free weights, medicine balls or weight machines.

It's all about finding the resistance that matches the exercise you need.

Resistance bands offer no resistance at first. They start adding more and more resistance as they are stretched until they reach their limit. The resistance adjusts again as the bands return to resting position.

Resistance bands offer very little resistance when first stretched (for the first 10-30 degrees of their range of motion). It is important to feel resistance early in the stretch, and this is more easily accomplished with single rubber bands than with some resistance machines.

BENEFITS OF RESISTANCE BANDS

- **They travel well.** Because resistance bands can be easily packed in a suitcase when traveling, these exercises can be done in a hotel room or car if no gym is available.
- **They increase coordination.** Holding tension throughout rubber band resistance exercise forces your body to stabilize, use more muscle groups and gain coordination and balance.
- **Variety.** Resistance band training can allow movement to change in multiple

directions. Different from weights, where a movement is limited to the number of reps one can accomplish, changing your position with a resistance band changes how an exercise feels and how your body adapts and works.

- **They're affordable.** With prices ranging from \$6 to \$20, depending on how many purchased and where you buy them, resistance bands can be a cost-effective solution to enhance and change your physical activity.
- **They're good for all fitness levels.** From beginners to advanced athletes, resistance bands can be utilized in a variety of different ways, with basic beginner moves and more advanced maneuvers with intensity for a higher level of training.

STRENGTH CURVES

Every exercise can be illustrated by a curve showing the force used over a range of motion. Variations among exercises and individuals can affect the shape of these curves as well as the timing and degree of force used in each exercise. Exercise loading should match the strength curve to ensure that appropriate force is applied to the muscle.



Take, for example, bicep curl exercises using elastic bands. Too much resistance would prevent smooth motion through the entire range. Resistance that is below the starting strength of the arm curl movement allows normal repetition of the movement.

It is important to be able to choose resistance to suit the exercise. For example, chest presses need more resistance than arm curls. Greater strength gives greater force than the band's resistance, while weaker users work with insufficient force throughout the entire range of motion. Neither case is well-matched with the particular band.

CHOOSING RESISTANCE BANDS

When choosing from a wide variety of resistance bands, ask yourself what exercises you will perform with the bands. This will tell you what range of resistance you'll need to adequately develop the muscle. Consider the following:

- **Tension level.** Bands come with different tension levels. Buy a variety of bands to create different levels of tension for different muscle groups, which will require different levels of resistance.
- **Comfort.** Bands should be easy to use and comfortable during use. Some bands have interchangeable handles, which come off in order to change to different bands. Buying bands with padded handles that are not interchangeable can be more user-friendly.
- **Start simple.** Many different types of bands exist. If just beginning, start with a basic long tube with handles. Once mastering its use, you can start using other band types.

- **Available accessories.** Using additions to bands, such as door attachments or ankle cuffs, make it possible to change and modify your workouts to add even greater variety.

SOME RESISTANCE BANDS INCLUDE:

- **Bonded Ends:** A ¼-inch strip of rubber is bonded at the ends to make a continuous band. This joint is a weak spot that can break during exercise.
- **Extruded Rubber:** Strands of rubber that are wound together like spaghetti, making it very strong. The bonded ends, though, are still a weak spot.
- **Over-layered:** A strip of rubber that is overlapped and bonded into a continuous band. The center of the overlapped section is very strong, but both ends are weak.
- **Layered-on Mandrills:** Bands are built in layers, forming a continuous band. The first and last layers should finish on different planes, at least three inches apart. This forms a one-piece band without any weak spots.

IDEAS FOR RESISTANCE BAND EXERCISES

Rubber band exercises can be used for a variety of drills, such as:

- Running and agility side-to-side drills;
- Power exercises, such as squat jumps and conventional resistance exercises; and
- Traditional exercise, such as chest presses, bicep curls, seated rows and squats.

SAFETY CONSIDERATIONS

As always, safety is the primary consideration. Rubber bands should be checked at rest and also when stretched to their usable length. Examine them carefully, asking yourself:

- Is the resistance smooth and flexible in use?
- Are there signs of wear from repetitive use, including cracks or worn endings?
- Are there signs of weather exposure – such as sun, water or cold – making the rubber cracked or pale?

STAYING ACTIVE PAYS OFF!

Those who are physically active tend to live longer, healthier lives. Research shows that moderate physical activity – such as 30 minutes a day of brisk walking – significantly contributes to longevity. Even a person with risk factors like high blood pressure, diabetes or even a smoking habit can gain real benefits from incorporating regular physical activity into their daily life.

As many dieters have found, exercise can help you stay on a diet and lose weight. What's more – regular exercise can help lower blood pressure, control blood sugar, improve cholesterol levels and build stronger, denser bones.

THE FIRST STEP

Before you begin an exercise program, take a fitness test, or substantially increase your level of activity, make sure to answer the following questions. This physical activity readiness questionnaire (PAR-Q) will help determine if you're ready to begin an exercise routine or program.

- Has your doctor ever said that you have a heart condition or that you should participate in physical activity only as recommended by a doctor?
- Do you feel pain in your chest during physical activity?
- In the past month, have you had chest pain when you were not doing physical activity?
- Do you lose your balance from dizziness? Do you ever lose consciousness?
- Do you have a bone or joint problem that could be made worse by a change in your physical activity?
- Is your doctor currently prescribing drugs for your blood pressure or a heart condition?
- Do you know of any reason you should not participate in physical activity?

If you answered yes to one or more questions, if you are over 40 years of age and have recently been inactive, or if you are concerned about your health, consult a physician before taking a fitness test or substantially increasing your physical activity. If you answered no to each question, then it's likely that you can safely begin exercising.

PRIOR TO EXERCISE

Prior to beginning any exercise program, including the activities depicted in this brochure, individuals should seek medical evaluation and clearance to engage in activity. Not all exercise programs are suitable for everyone, and some programs may result in injury. Activities should be carried out at a pace that is comfortable for the user. Users should discontinue participation in any exercise activity that causes pain or discomfort. In such event, medical consultation should be immediately obtained.



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