



## ACSM Information On...

# Selecting and Effectively Using A Stability Ball

Stability balls provide an inexpensive, fun way to improve core stability, muscular strength, muscular endurance, balance, flexibility and functional fitness. Stability balls were developed in Italy during the 1960s and were first used in rehabilitative therapy by Dr. Susanne Klein-Vogelbach in Switzerland. Stability balls (also known as Swiss balls or physioballs) can help anyone improve his or her fitness, allow a variety of exercises with or without external resistance and can be used to overload the muscles. Stability balls also work the core muscles (abdominals, back muscles, hip flexors and extensors). Because the ball itself is unstable, these muscles are actively engaged throughout each exercise.

### 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.

### SELECTING A STABILITY BALL

Stability balls range from small to extra-extra-large. Choose a ball size that allows you to sit with erect posture with your hips and knees at 90 degrees based on your height and leg length:

- 30-35 cm if < 4'10" tall.
- 45 cm if 4'8"-5'5" tall.
- 55 cm if 5'6"-6'0" tall.
- 65 cm if 6'0"-6'5" tall.
- 75 cm if those over 6'5" tall.
- 85 cm ball if heavier or long-legged exerciser.

A smaller ball may be more useful as a handheld object for sitting or standing range of motion and balance exercises. A smaller ball can also be used to perform crunches with the ball between or behind the knees.

### MAINTENANCE AND DURABILITY CONSIDERATIONS

Stability balls are durable and will last a long time with proper care. Consider the following:

- Follow the manufacturer's directions for proper inflation, and check inflation on a regular basis.
- Use stability balls on a clean, smooth surface (floor or carpet) that is free of

debris and sharp objects that could cause wear on the balls' surfaces or puncture them.

- Clean stability balls regularly with water or mild soapy water for comfort and sanitary reasons. Avoid using chemical cleaners that may damage the covering.
- Stability balls can be stored on specially-made racks, on stackers or in a net suspended from the wall or ceiling to save floor space.

### SAFETY CONSIDERATIONS

Using a stability ball safely starts with proper inflation and care. To increase your safety while using a stability ball:

- Maintain the natural curves in your back while exercising.
- Increase your stability by placing your feet on the floor shoulder-width apart (or wider for better balance). Put a mat in front of the ball to act as a cushion in case of a fall.
- Use a wall behind the ball to keep the ball from rolling out from underneath you and to prevent you from falling directly to the floor should the ball slip forward.
- Place chairs on either side of the ball to provide lateral stability if needed while exercising in a seated position.



- Always use good movement technique and control.
- Remember to breathe throughout each exercise.
- Avoid ballistic movements (bouncing or fast movements of the joints) on the stability ball because they reduce your control of the movement and increase the risk of muscle strain and joint sprain.

In addition, it is important to follow a proper exercise progression to reduce your risk of injury and gain optimal training benefits. Begin by developing the ability to maintain your balance while sitting on the ball. Then, add movement of the limbs or trunk or external resistance with free weights, resistance bands or a medicine ball.

### OTHER CONSIDERATIONS

As your core stability, balance and strength improve, you can achieve a progressive overload (challenging yourself further in different ways in order to achieve additional fitness benefits) in a number of ways:

- Practice transitions from one position to another.
- Make your base of support less stable by moving feet or hands closer and farther away from the ball.
- Vary your position on the ball so it supports less of your body weight (in crunches or push-ups), and so you are lifting more weight against gravity.
- Add a dynamic balance challenge by adding movement on, over or around the ball with one or both limbs (on the same or opposite sides of the body). Increase your volume of training (increase the resistance used or the number of repetitions or sets performed). Use a larger stability ball for an added challenge.

### USING STABILITY BALLS

Stability balls can be used in a variety of ways to achieve different aspects of fitness.

- **Increase flexibility:** Lie over the ball on your back to stretch abdominal muscles, on your stomach to stretch back muscles or on your side to stretch abdominal oblique muscles. Sit on the ball with one leg extended in front and one leg flexed at the knee to support and stabilize the body, and reach forward to the toes of the extended leg to stretch the hamstrings.
- **Increase muscle strength and endurance without external weight:** Lie on your back on the ball and perform crunches. Perform push-ups with knees, shins or feet on ball. Lie on your stomach on the ball and perform back extensions, or perform squats by placing the ball between your back by flexing at the hips and knees to a wall and move up and down.
- **Increase muscular strength and endurance by using dumbbells or other external resistance:** Perform chest presses, triceps extensions, flies or other exercises while sitting or lying on your back on the ball.

### IMPORTANT POINTS TO REMEMBER

Stability balls have multiple benefits, including increasing core stability, static and dynamic balance, strength, flexibility and functional performance. Stability balls can be used to improve sports performance, or they can be incorporated as part of an injury rehabilitation program. You can do an entire workout with a stability ball, or you can use one as part of a well-rounded exercise program for greater variety and effective development of core stability.

### 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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