

# Strength Training With Stability Balls

Lisa Washburn, DrPH  
Assistant Professor -  
Health

LaVona Traywick, Ph.D.  
Associate Professor -  
Gerontology

Jessica Vincent  
County Extension Agent -  
Family and Consumer  
Sciences

Lauren Copeland  
Program Technician -  
Health

Stability balls offer a fun and inexpensive way to add variety to fitness routines. Stability balls are also known as Swiss balls, fit balls, yoga balls or physio balls. Use of stability balls can help improve strength, endurance, balance, flexibility and core stability. Stability balls are unstable, which challenges and engages core muscles while performing strengthening exercises. Stability balls may be used alone or in exercises using other types of strength training equipment, such as dumbbells and ankle weights.

## Selecting a Stability Ball

To ensure safety while performing exercises, choose a stability ball appropriate for your height. A ball that is too large or too small may decrease or increase difficulty of exercises. Stability balls range in size from small to extra-extra-large. Choose a ball size that allows you to sit with good posture, with hips and knees at a 90-degree angle. Make sure your knees do not extend past your ankles. Hips should be level with knees or slightly higher. It is very important that you choose a ball size based on your height and leg length.



Smaller balls may be useful for sitting or standing exercises to improve range of motion and balance. They may also be used to perform crunches with the ball between or behind the knees. Choose a slightly larger ball if you have back problems or if you are limited to performing only stretching exercise.

## Ball Safety

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 about shoulder-width apart or wider for better balance. Put an exercise mat in front of or under the ball to act as a cushion in case of a fall. When possible, use a wall behind the ball to prevent the ball from rolling out from underneath you. A wall can also prevent you from

Height	Stability Ball Size
Less than 4'10" tall	30-35 cm (12-13.5 inches)
4'8" - 5'5" tall	45 cm (18 inches)
5'6" - 6'0" tall	55 cm (22 inches)
6'0" - 6'5" tall	65 cm (26 inches)
Over 6'5" tall	75 cm (30 inches)
Exercisers with long legs or who may be heavier	85 cm (34 inches)

Visit our web site at:  
<http://www.uaex.edu>

falling directly to the floor if the ball slips forward. Do not lean back on the wall while sitting on the ball. Always use good form and controlled movements. Avoid bouncing on the ball. Bouncing movements reduce control and might increase injury risk. Remember to breathe throughout each exercise. Sweat during exercise can make the ball slick. Use a towel to wipe excess sweat from the ball or body to minimize injury risk.

If you're new to using stability balls, progress gradually to minimize injury risk and maximize fitness gains. First, work on your ability to stay balanced while sitting on the ball. Then, add arm, leg or trunk moves and resistance with free weights, resistance bands or a medicine ball.

## Care of Stability Balls

Stability balls are durable and will last a long time with proper care.

- Follow the manufacturer's directions for proper ball inflation. Regularly check inflation.
- Use stability balls on a clean, smooth surface (floor or carpet), free of debris and sharp objects that may cause wear on ball surfaces or puncture the ball.
- Clean stability balls regularly with water or mild soapy water. Avoid using chemical cleaners that may damage the ball exterior.

## Using Stability Balls

Stability balls are versatile. The stability ball routine included in this guide will add variety and help meet your fitness goals.

- **Weight training.** The exercises included use the stability ball as a "weight bench" or "chair" to increase intensity of the movements and target the legs, buttocks and core muscles.
- **Core training.** Back extensions and abdominal curl exercises performed on the ball make the movements more challenging. More muscles are

used to do the exercises on the stability ball than if done on a floor.

- **Sitting around.** Even the "rest" period between sets while sitting on the stability ball challenges core muscles. Sit on a stability ball to improve posture and engage core muscles while sitting at a desk or at home watching television.
- **Flexibility and stretching.** The stability ball is a tool to increase flexibility by allowing greater available range of motion depending on body placement. Similarly, use the ball to enhance stretching exercises.

## How to Use This Stability Ball Routine

This strengthening routine includes eleven exercises targeting all the major muscle groups.

- Warm up for five to ten minutes before starting the exercises.
- Perform each exercise eight to twelve times.
- Rest for a minute and repeat eight to twelve repetitions of each exercise two or three more times.
- Aim to perform strengthening exercises at least two to three days each week. Allow time for your body to rest by skipping a day in between.
- Wear appropriate athletic shoes.

## Warm Up First

A "warm-up" is a combination of movements and stretches that raise or "warm up" body temperature. By slowly raising the heart rate before more intense exercise, the risk of injury is lower. Warm-up periods are usually between five and ten minutes. A warm-up can be as simple as walking followed by static stretching through a full range of motion. Stretch after your muscles are warm. It can also be a slower version of the aerobic or strength training activity to come. For example, perform a few repetitions of the exercises in the following routine without any weights, and without rest periods, for five to ten minutes. After your body is warmed up, you are ready to perform more intense exercises.



## Chest

### Push-Up

*Getting into position:*

1. Kneel on the floor with the ball in front of you and roll forward on it, walking the hands out to where you can comfortably support your body while keeping your abdominals tight, shoulders back and your body in a straight line.
2. Place your hands a little wider than shoulder width apart.
3. If your midsection is sagging, roll back a little on the stability ball for more support.



*The move:*

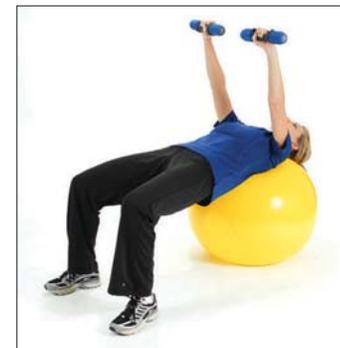
1. Bend the elbows to lower your entire body towards the floor.
2. Keep your abdominal muscles contracted for stability.
3. Pause for a breath when your elbows are about 90 degrees.
4. Press back to the starting position smoothly and stop before your arms are completely straight.
5. If the move is too difficult, roll back on the stability ball. Gradually increase the roll-out distance as you become stronger.



### Chest Press

*Getting into position:*

1. Hold one dumbbell in each hand.
2. From a seated position on the stability ball, roll the ball to support your back by walking your legs forward. Feet should be flat on the floor and approximately hip-width apart.
3. Move your upper arms out to the side of your body so they are resting on the ball.
4. Raise your forearms straight up and parallel to each other like goal posts. Your elbow should be at a 90-degree angle.
5. Position the dumbbells outside of your body at the level of your mid-chest or bust line. Your palms should face your feet, with your wrists and elbows in a straight line.
6. If your mid-section is sagging, contract your abdominals and bring your hips up so your body is in a straight line.



*The move:*

1. Exhale and use your chest muscles to slowly press the dumbbells straight up to the count of two until your arms are fully extended. Do not lock your elbows. Your wrists, elbows and shoulders should be in a straight line.
2. Pause – hold both arms in the lifted position for a count of one.
3. Inhale and slowly lower the dumbbells back to the starting position to the count of four.
4. Pause – take a breath and then repeat the move.

## Core

### Back Extension

*Getting into position:*

1. Kneel on an exercise mat facing away from the wall with your feet resting against the wall.
2. Lean over a stability ball and lower until your back is close to parallel with the floor, pressing your pelvis against the front side of the ball for stability.
3. Cross your arms over your chest.

\*Note: For less stress on the knees, roll out on the ball until your legs are straight.

*The move:*

1. Hold your upper body contracted as a unit.
2. Squeeze down both sides of your back, gluteal muscles and the backs of your legs to slowly lift up and back toward the wall.
3. Push through your feet into the wall to feel anchored.



### Abdominal Curl

*Getting into position:*

1. Sit on top of the stability ball with your feet shoulder-width apart and flat on the floor.
2. Slowly roll out until the ball is resting on your mid/lower back.
3. You can vary your arm positions to affect the difficulty of the move:
  - Hands touching opposite elbows; arms may be rested on the chest.
  - Hands touching opposite shoulders; arms may be rested on the chest.
  - Hands softly touching the head above the ears.
  - Hands softly clasped behind the head. Avoid pulling on the neck in this position.

*The move:*

1. Slowly contract your abdominal muscles to lift your torso up off the ball.
2. As you curl up, keep the ball stable – don't roll forward or side-to-side.
3. Slowly lower back down to the starting position and get a good stretch through the abdominals.



## Legs

### Ball Squat

*Getting into position:*

1. Place a stability ball between your lower back and the wall.
2. Lean into the ball with your feet shoulder-width apart, placed in front of your hips by a few inches.
3. Hold your arms out straight or cross them over your chest for greater challenge.

*The move:*

1. Sit back as if you were lowering into a chair. Your hips and knees should bend to allow your weight to shift back as the ball rolls down the wall.
2. Stop lowering when you feel effort or when the ball is pressing against your mid-back area.
3. Maintain contraction in your core muscles as you pause. Make sure that your lower back does not start to arch strongly and that your tailbone does not tuck under your body.
4. Press into the ball and push up from the squat using your buttocks and legs. Avoid straightening up by pushing from your back.



### Calf Raise

*Getting into position:*

1. Facing a wall or closed door, stand with your feet hip-width apart and about 3 feet from the wall or closed door.
2. Holding the stability ball, place it against you so it rests between your hips and just under your chest, then extend your arms forward and place the stability ball against the wall or closed door.
3. While still holding onto the stability ball, slowly lean your body until it is supported by the stability ball.
4. Place your arms at your sides, keep your back straight, look forward and tighten your abdominal muscles.

*The move:*

1. Slowly raise yourself as high as possible on the balls of your feet.
2. Hold the position for a slow count of three.
3. Slowly lower your heels back to the ground.
4. To increase the difficulty of the exercise, move your feet further away from the wall or closed door.



### Knee Extension

*Getting into position:*

1. Strap ankle weights on both ankles.
2. Sit on stability ball. Your legs should be separated slightly so that your knees and feet are hip-width apart.
3. Your thighs and lower legs should form a 90-degree angle. If the thighs and lower legs are at an angle greater than 90 degrees, the stability ball may be too large.
4. Place your hands on the tops of your thighs or on the sides of the stability ball.

*The move:*

1. Exhale as you lift your right leg up in a slow, controlled movement until your leg is straight.
2. Pause – hold your right leg in the lifted position for a count of one.
3. Inhale as you lower your right leg to the starting position.
4. Pause – take a deep breath and then repeat the move with your left leg.



## Shoulders

### Overhead Press

#### *Getting into position:*

1. Sit on a stability ball with your feet flat on the floor about hip-width apart. The thigh and lower leg should form a 90-degree angle. The knee should be level with the hip.
2. Hold one dumbbell in each hand.
3. Dumbbells should be at shoulder height, parallel to the floor, with the inner ends just outside the front sides of your shoulders.
4. Your palms should face forward and your wrists should be straight.
5. Bring your elbows forward slightly so that your forearms are straight up and down.
6. Your upper arms should be close to the sides of your body.



#### *The move:*

1. Exhale and slowly press the dumbbells straight up over your head.
2. Extend your arms completely so that they are straight without locking your elbows.
3. Pause – hold your arms straight and in the lifted position for a count of one.
4. Inhale as you lower the dumbbells to the starting position.
5. Pause – take a deep breath before you perform the next rep.

### Side Lateral Raise

#### *Getting into position:*

1. Sit on a stability ball with feet hip-width apart. The thigh and lower leg should form a 90-degree angle. The hip and knee should be level.
2. Grasp the dumbbells in your hands and put a slight bend (approximately 30 degrees) in each elbow.
3. Hold your back straight and look forward.
4. Keep your chest up and tighten your abdominal muscles.

#### *The move:*

1. Exhale and lift both arms by squeezing the muscles in the shoulders. Avoid shrugging the shoulders to the ears.
2. Your outer arm will rise toward the ceiling, and your inner arm will be facing the floor. Maintain the slight bend in your elbows; do not increase or decrease the angle.
3. Pause for a breath when your arms are slightly below or at shoulder height. Do not take your arms above shoulder height.
4. Inhale and slowly return to the starting position.



## Arms

### Biceps Curl

#### *Getting into position:*

1. Sit on a stability ball with your feet flat on the floor about hip-width apart. The thigh and lower leg should form a 90-degree angle. The hip and knee should be level.
2. Hold one dumbbell in each hand so that your elbows and upper arms are snug against the sides of your body.
3. Your forearms should be extended down at your sides with your palms facing in towards your thighs.

#### *The move:*

1. Exhale and raise the dumbbells toward your shoulder by bringing the forearms up.
2. Rotate your forearms in a smooth motion as you lift the dumbbells so that your thumbs turn toward the outside of your body.
3. Your palms should be directly in front of your shoulders in the lifted position.
4. Pause with the dumbbells in front of your shoulders, but not touching them, for a count of one.
5. Inhale and slowly lower the dumbbells by rotating your forearms so that your palms face your thighs in the starting position.
6. Pause for a breath and repeat the move.



### Wrist Curl

#### *Getting into position:*

1. Sit on a stability ball with your legs separated and feet flat on the floor. The thigh and lower leg should form a 90-degree angle. The hip should be level with the knee.
2. Hold a dumbbell in each hand.
3. Lean forward from the hips and rest the forearms on your thighs, with your palms facing up.
4. Place the wrists just past the knees.
5. Keep your back straight.

#### *The move:*

1. Bring the wrist upward and curl the weight toward your forearm, keeping your forearms on your thighs.
2. Pause for a breath.
3. Slowly return to starting position.



The poster – MP494, *Get on the Ball: Strength Training With Stability Balls* – is available to order from the University of Arkansas Division of Agriculture, Cooperative Extension Service web site at [www.uaex.edu](http://www.uaex.edu) (click the "Publications" link).

## References

Geithner, C. (2011). *Selecting and Effectively Using a Stability Ball*. American College of Sports Medicine.

Printed by University of Arkansas Cooperative Extension Service Printing Services.

---

**DR. LISA WASHBURN** is assistant professor - health, **DR. LaVONA TRAYWICK** is associate professor - gerontology, **JESSICA VINCENT** is county Extension agent - family and consumer sciences, and **LAUREN COPELAND** is program technician - health. All are with the University of Arkansas Division of Agriculture. Washburn, Traywick and Copeland are located in Little Rock and Vincent is located in Hot Springs.

FSFCS39-PD-9-2014N

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Director, Cooperative Extension Service, University of Arkansas. The Arkansas Cooperative Extension Service offers its programs to all eligible persons regardless of race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.