



# Build Your Strength

Most Kentuckians are not as active as they should be. Research suggests that adding moderate physical activity to your lifestyle may be the single most important thing you can do to feel better and decrease your risk of disease.



**N**ew research about physical activity and well-being is showing us new ways to think about fitness and health. No longer is weight loss the primary goal. Moderate activity and a healthy weight are the new recommendations for good health. Strength training has been proven to have surprising benefits by helping people feel better and become healthier. It is important to work regular activity into your daily routine. Try not to sit still for extended periods of time. Consider walking or other ways to build aerobic strength. Choose activity you can live with to:

- Help you feel better and get more done
- Provide more activity throughout your day
- Allow time to enjoy nature
- Help you become stronger in muscles, heart, and mind

## **Stretch It Out**

Before any exercise routine, it is a good idea to do some stretching and warm-up exercises. Stretching relaxes your mind and tunes up your body. It can be a great part of your daily life. If done correctly and regularly, every movement will become easier.

It may take time to loosen up tight muscles that have been neglected for a long time, but this is quickly forgotten when you start to feel better. Stretching can help prevent injuries, such as muscle strain. The right way to stretch is a relaxed, sustained stretch with your attention focused on the muscles being stretched. Bouncing or stretching to the point of pain actually does more harm than good.

The proper stretch should consist of the following steps:

### **The Easy Stretch**

- In the beginning, spend 15 to 30 seconds at the point where you feel mild tension. (No bouncing!) Relax as you hold this position.
- Tension should subside as you hold the position.

- This stretching will reduce muscular tightness and ready the tissues for the next stretch.

### **The Developmental Stretch**

- Move a fraction of an inch further until you feel a mild tension again.
- Hold this position 15 to 30 seconds. Be in control.
- This stretch fine-tunes the muscles and increases flexibility.

### **Breathing**

- Breathing should be slow, rhythmic, and under control.
- Exhale as you bend forward and then breathe slowly as you hold the stretch.
- Do not hold your breath.

### **Counting**

- Initially, count the seconds silently for each stretch. This will ensure that you hold the proper tension for a long enough time.
- After a while, you will learn to stretch by the way it feels rather than by counting.

The right way to stretch is a relaxed, sustained stretch with your attention focused on the muscles being stretched. Bouncing or stretching to the point of pain actually does more harm than good.



## Before You Begin

Building and keeping strong muscles and bones is important for people of all ages and sizes. We also need good aerobic fitness to be able to enjoy life to the fullest. If you have been inactive, you might want to start with something you can do in front of the television or when you wake up, such as a body awareness routine including stretching and toning. Use of weight-resistance equipment (like weight machines or hand weights) can help you maintain bone strength and muscle mass. But you don't need special equipment; you can use canned goods as hand weights.

You can do the following strength-training exercises at home using a phone book, 16-ounce can, or a half-gallon milk jug filled with water to add difficulty. Make sure that you breathe (i.e., do not hold your breath) while doing these exercises. Try to do these exercises in the order listed, 3 times per week. Start with 3 sets of 8 repetitions, working up to 3 sets of 12 repetitions, before increasing weight. A set is the number of repetitions performed consecutively without stopping. Repetition is one complete movement of a weight-training exercise. Always consult your physician before beginning an exercise program.

# Workout Wisdom

## Body Alignment

Good posture and proper alignment are important. Maintain a shoulder-width stance and keep a slight bend in the knees for stability.

## Breathing Technique

It is important to exhale when lifting the weight and inhale when lowering the weight.

## Using a Spotter

A spotter is needed whenever a person is using free weights that are supported above the body. The spotter's function is to supervise the lifter through the full range of motion and to give feedback on proper body alignment.

## Exercise Order

It is most effective to work your larger muscle groups first. The exercises that accomplish this—bench press, lat pull-down, leg presses, etc.—are extremely taxing and cannot be done correctly if your energy level is low or if you have already fatigued the smaller muscles that may assist or stabilize during the movement (for example, if you first work your shoulders and then try to bench press).

## Muscle Soreness

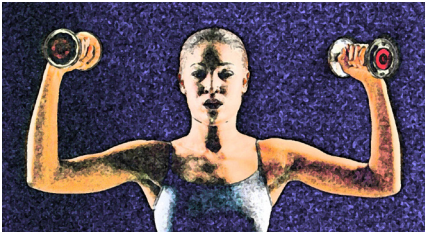
It is very common to experience muscle soreness after a weight training session. This pain is usually felt 24 to 48 hours after exercise.

To prevent sore muscles, follow this routine: warm up, progress gradually, and perform static (holding) stretches after exercise. To relieve sore muscles: perform static stretches, rest, and avoid exercises that cause pain in the affected area.

## Warming Up/Cooling Down

Warming up and cooling down are often overlooked in weight training sessions. Warming up prepares the body for exercise by increasing the flow of blood to the muscles. This is an important injury-prevention technique. Riding the stationary bike, walking on the treadmill, rowing, etc. are all great ways to provide your body with a general warm-up (5 to 10 minutes is sufficient). Warm-up can also be facilitated by starting the exercise sessions with lighter than normal weight loads.

After your workout, the muscles are warmed up. This is a perfect time to work on your flexibility. Holding stretches without bouncing will help improve flexibility and prevent delayed onset muscle soreness.



## Strength-Building Techniques

As with all exercise, technique is important to consider when performing strength-building exercises. To avoid injury and get the most out of any program, exercises must be done in the full range of motion and at an appropriate speed. Deliberate lifting and lowering of the weights is essential, paying special attention to the lowering phase of the exercise.

Safety is essential because the last thing you want is an injury from an activity that is designed to promote health. Therefore, these instructions are presented with safety in mind.

# Upper Body Workout

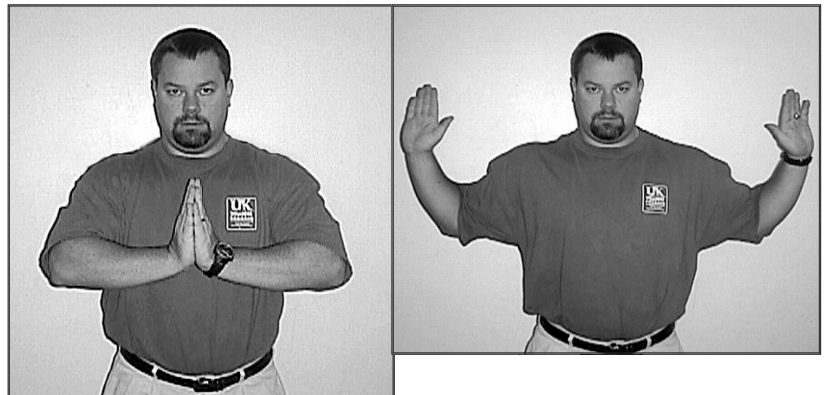
## Wall/Desk Push-up

Stand facing the wall or desk, with your hands on a desk (or on the wall, chest level), arms straight and shoulder-width apart. Put your feet shoulder length apart, keep your back straight, and slowly bend your elbows so that your upper body moves toward the desk (or wall) as one unit.



## Chest Press

Stand with your legs shoulder-width apart. Put your palms together in front of your face with elbows at your side. Press your palms together and slowly move hands out to the side, keeping elbows at right angle. Pause for 2 seconds and then lower hands.





You can do the following strength-training exercises at home using a phone book, 16-ounce can, or a half-gallon milk jug filled with water to add difficulty.



### **Lateral Lifts**

*Stand with legs slightly bent at the knee and shoulder-width apart. Place one hand on your waist. Leave your other hand at your side while holding onto a phone book, can, or small weight (e.g., a roll of pennies). Slowly lift that hand to the side until it is shoulder high, keeping the arm straight (but do not lock the elbow). Pause 2 seconds and then slowly bring that arm back to your side. Repeat on other side.*

### **Triceps Extension**

*Stand in the same position as for the wall push-up, but place your hands so that they are touching and are level with the center of your chest. Slowly bring your upper body to the wall so that the area from your elbow to shoulder stays straight and the area from your elbow to your hands becomes flush with the wall (i.e., keep your elbows in).*



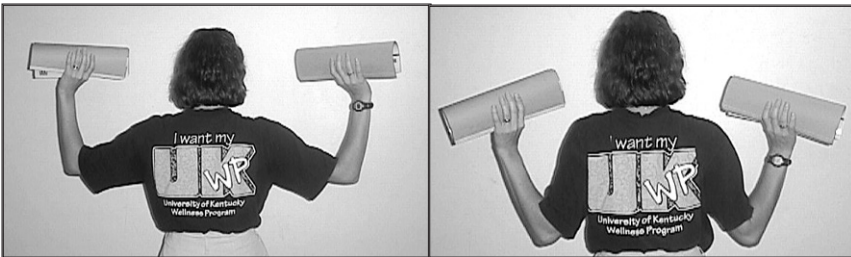
### **Biceps Curl**

Stand with your legs shoulder-width apart, knees slightly bent. Place your elbows close to your waist, arms at your side, palms facing forward. Hold a book or can (not soda!) in one hand. Curl the weighted hand toward your chest, keeping elbows in and just moving the arm from the elbow to your wrist upward. Pause for 2 seconds and then slowly bring that arm back to your side. Repeat on other side.



### **Lat Pull-down**

Stand with your legs shoulder-width apart, knees slightly bent. Place a heavy object, such as a can or phone book, in each hand. Bring your hands level with the top of your head and have your elbows at 90-degree angles. Squeeze shoulders and then bring your elbows behind your ribs.



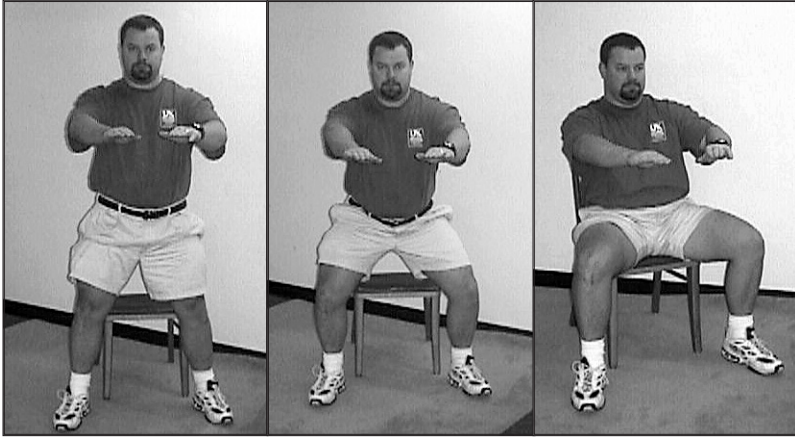
It is important to exhale when lifting the weight and to inhale when lowering the weight.

# Lower Body Workout

## Chair Squat

Stand with a chair placed behind you. With feet shoulder-width apart, take a seated position on the chair. Return to starting position. Complete desired repetitions.

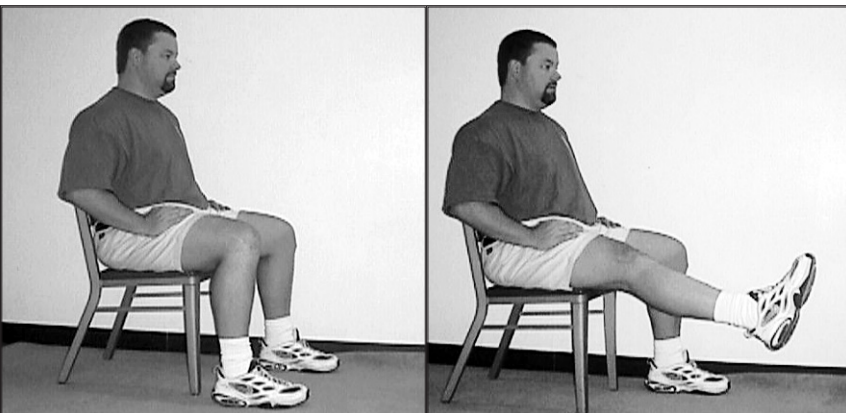
- Make sure knees do not go beyond feet.
- Inhale on the way down; exhale on the way up.



## Leg Extension

Sit in a chair with feet flat on the floor. Extend your right leg with the foot flexed and positioned parallel to the floor. Pause. Return to starting position. Complete desired repetitions. Repeat on other side.

- Exhale on the way up; inhale on the way down.



## Hamstring Curl

Stand with feet shoulder-width apart. Place your hands on a wall or any solid object. Raise your right heel to your buttocks. Maintain right knee pointed toward the floor. Pause. Return to starting position. Complete desired repetitions. Repeat on other side.

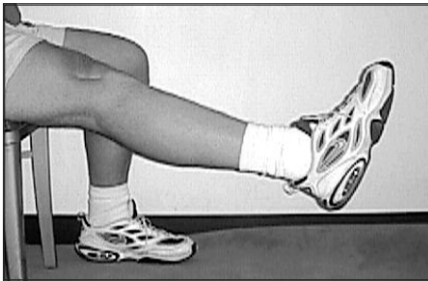
- Exhale on the way up; inhale on the way down.



### **Alphabet**

Sit in a chair with feet flat on the floor. Raise your right leg with foot flexed. Rotate right foot to "write" each letter of the alphabet. Return to starting position. Repeat on other side.

- *Breathe normally.*



As with all exercise, technique is important to consider when performing strength-building exercises. To avoid injury and get the most out of any program, exercises must be done in the full range of motion and at an appropriate speed.

### **Calf Raise**

Stand with feet shoulder-width apart. Place your hands on a wall or any solid object. Press down on your toes and raise heels. Pause. Return to starting position. Complete desired repetitions.

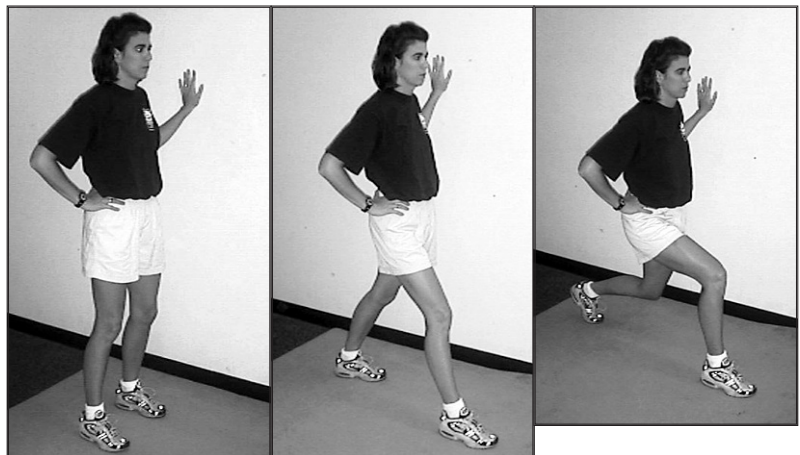
- *Exhale on the way up; inhale on the way down.*



### **Single Leg Lunge**

Stand with feet shoulder-width apart and hands on waist. Step forward with your right leg to place your right knee in a 90-degree angle. Return to starting position. Complete desired repetitions. Repeat on other side.

- *Make sure knees do not go beyond feet.*
- *Inhale on the way down; exhale on the way up.*



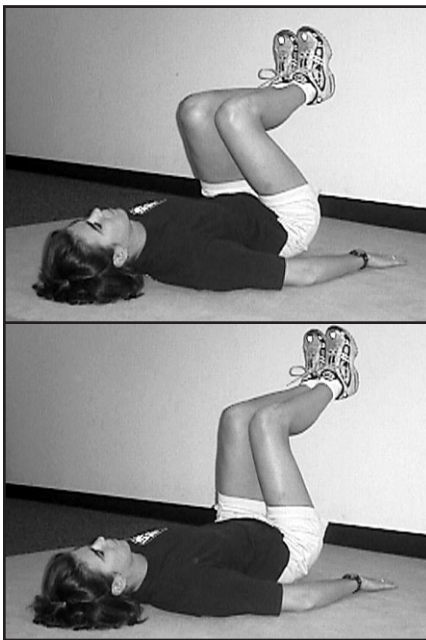


# Abdominal Workout

## Lower Abdominal

Keep lower back flat on floor and arms to the side. Raise legs with 90-degree angles at the knee. Bring knees to chest by contracting the lower abdominal region. Pause. Return to starting position. Complete desired repetitions.

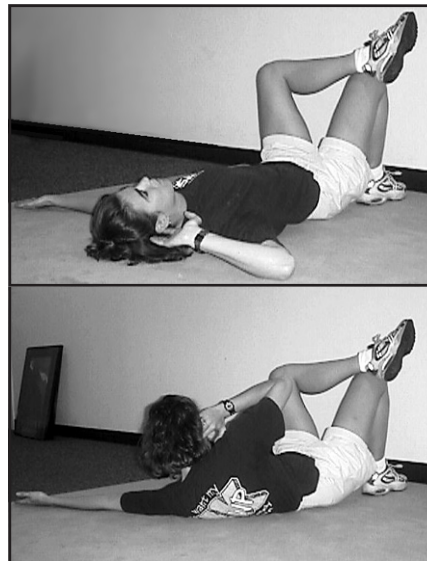
- Exhale on the way up; inhale on the way down.



## External Oblique

Keep lower back flat on floor. Cross left leg over right knee. Place right hand behind right ear and extend left arm to side. Bring right shoulder off floor toward left knee by contracting the left region of the abdominal area. Pause. Return to starting position. Complete desired repetitions. Repeat on other side.

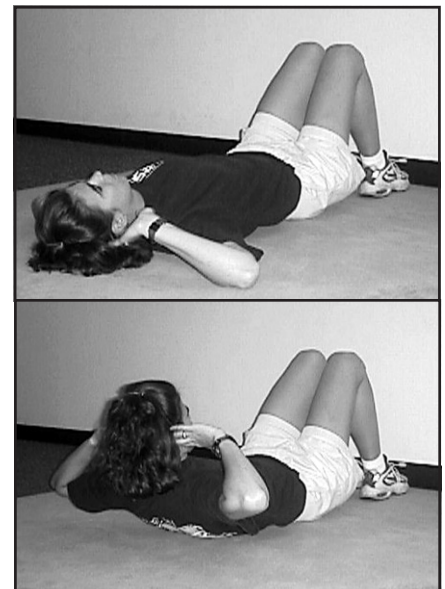
- Exhale on the way up; inhale on the way down.
- Do not pull on back of head.



## Upper Abdominal

Keep lower back flat on floor, hands behind ears. Contract the upper abdominal region. Curl up until shoulders come up off the floor. Pause. Lower to starting position. Complete desired repetitions.

- Exhale on the way up; inhale on the way down.
- Do not pull on back of head.



After your workout, the muscles are warmed up. This is a perfect time to work on your flexibility. Holding stretches without bouncing will help improve flexibility and prevent delayed onset muscle soreness.

## References

American College of Sports Medicine. *Resource Manual for Guidelines for Exercise Testing and Prescription*. 2nd ed., 1993.

*For further reading:* Scientists from Tufts University have studied the benefits of strength-training exercise at the Jean Mayer USDA Human Nutrition Research Center on Aging. To learn more about this work, consult the following publications:

Nelson, M.E., and S. Wernick. *Strong Women Stay Slim*. Bantam Books, New York, NY, 1999.

Nelson, M.E., and S. Wernick. Reshape your body with six simple exercises. *Reader's Digest*, September, 1998.

*This publication provides information about wellness. Readers are encouraged to use it for education, but not as a substitute for professional medical advice.*

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