



**www.arthritis.org**  
**800-283-7800**

# Exercise and Your Arthritis

## UNDERSTANDING ARTHRITIS

The word arthritis literally means joint inflammation (arth = joint; itis = inflammation). It refers to more than 100 different diseases that affect the joints and the tissues around the joints, such as muscles and tendons. Some forms of arthritis, such as rheumatoid arthritis or lupus, also can affect other parts of the body, including the skin and internal organs.

Nearly 70 million Americans have arthritis or a related condition. People with arthritis face many challenges as a result of the disease, but the good news is there are many ways to meet those challenges and lead a fulfilling life.

## WHAT CAN EXERCISE DO FOR ME?

Exercise is good for almost everyone. For many years it was thought that people with arthritis should not exercise because it would damage their joints. Now doctors and therapists know that people with arthritis can improve their health and fitness through proper exercise without hurting their joints.

If you have arthritis or a related condition, exercise is especially important. Exercise is beneficial because it can help:

- keep your joints flexible;
- keep the muscles around your joints strong;
- prevent further deterioration of bone and cartilage;
- improve your ability to do daily activities; and
- improve your overall health and fitness by:
  - giving you more energy
  - helping you sleep better
  - controlling your weight
  - making your heart stronger
  - decreasing depression
  - improving your self-esteem and sense of well-being.

Along with medication, rest and other parts of your treatment program, regular exercise can help keep your joints in working order so you can continue your daily activities. It also may help prevent further joint damage.

## What Could Happen if I Don't Exercise?

Because you have arthritis, it is important to keep your muscles as strong as possible. The stronger the muscles and tissue are around your joints, the better they will be able to support and protect those joints – even those that are weak and

damaged from arthritis. If you don't exercise, your muscles become smaller and weaker. Weight-bearing exercises also help keep your bones strong and prevent osteoporosis and bone fracture.

Many people with arthritis keep painful joints in a bent position because at first it's more comfortable. If your joints stay in one position for too long without movement, you may lose your ability to straighten them out. Exercise helps keep your joints flexible, allowing you to continue to do your daily tasks as independently as possible.

Exercise can change your mood. If you're in pain, you may feel depressed. If you feel depressed, you may not feel like moving or exercising. But without exercise, you may feel more pain and depression. Research has shown that participating in a regular exercise program is a great way to feel better and move more comfortably.

### How Do I Know What's Best?

An exercise program can be developed for everyone. The program that's best for you will depend on the type of arthritis you have, which joints are affected and the severity of involvement. Your program also may vary depending on how active the arthritis is. Your physician and a physical therapist can help determine the best exercise program for you.

Even if your type of arthritis has caused deformities of the feet, knees or hips you still can enjoy exercise. Your physician and physical therapist can develop a program that will allow you to exercise your leg muscles without aggravating these joints.

### Who Can Help Me Start an Exercise Program?

Two types of health professionals are specifically qualified to work with you to maximize

the benefits of an exercise program that meets your specific needs.

Physical therapists can show you special range-of-motion and strengthening exercises to help keep your joints flexible and your bones and muscles strong. They also can teach you proper exercise techniques, precautions and other guidelines.

Occupational therapists can show you how to do everyday activities in ways that will not place additional stress on your joints. Occupational therapists also can provide you with splints or other assistive devices that can help you exercise more comfortably and reduce pain.

Contact your doctor or local Arthritis Foundation office for more information on how you can contact these and other health-care professionals.

### Are There Any Risks in Exercising?

The most common risk of exercise is aggravating your arthritis by working your joints or muscles too much. This can happen if you exercise too long or too hard, especially when you are first beginning your exercise program.

Remember that exercise is only one part of your treatment program. Other parts of your program should include:

- proper diagnosis by a doctor;
- education about arthritis;
- using your joints correctly;
- conserving your energy;
- medication;
- eating properly;
- rest and relaxation;
- splints (for some people);
- using heat or cold treatments; and
- surgery (for some people).

## THE MAIN TYPES OF EXERCISE

People with arthritis often benefit from a balanced exercise program including different types of exercise. Three main types of exercise that should be included in your exercise program are range-of-motion, strengthening and endurance exercises.

### Range-of-Motion Exercises

Range-of-motion (ROM) exercises reduce stiffness and help keep your joints flexible – something that can help you carry out your activities of daily living. The “range of motion” is the normal amount your joints can be moved in certain directions. Examples of ROM exercises are shown on pages 9-12 of this booklet. If your joints are very painful and swollen, move them slowly through their range of motion. These exercises are best done in a non-weight-bearing position such as lying on your bed or couch. You should try to do these exercises daily. Before beginning, perform a quick check of your joints, from head to toe, to determine which ones are stiff. Exercise the joints that are most stiff. Do at least one set of three to 10 repetitions daily.

### Strengthening Exercises

These exercises are beneficial because they help maintain or increase muscle strength. Strong muscles help keep your joints stable and protected. People with arthritis will generally do isometric exercises rather than isotonic exercises. Do these exercises every other day.

### ISOMETRIC EXERCISES

In these exercises, you tighten your muscles but don't move your joints. These exercises allow you to build your muscles without moving painful joints. Examples of isometric exercises are quadrip sets, in which you tighten the large muscle at

the front of your thigh. The illustration below shows another example of an isometric exercise.



This exercise strengthens the muscles that bend and straighten your knee. Sit in a straight-backed chair and cross your ankles. Your legs can be almost straight, or you can bend your knees as much as you like. Push forward with your back leg and press backward with your front leg. Exert pressure evenly so that your legs do not move. Hold this position and count out loud for six to 10 seconds. Relax. Then change leg positions and repeat.

### ISOTONIC EXERCISES

In these exercises, you move your joints to strengthen muscles through resistance. Resistance to motion can come from gravity, a resistance band or a light barbell or cuff weight. (You should begin with one- or two-pound weights.) Also, exercises in water can help strengthen muscles because water adds both assistance and resistance to your movements.



This exercise strengthens your thigh muscle. Sit in a chair with both feet on the floor and spread slightly

apart. Raise one foot until your leg is as straight as you can make it. Hold this position and count out loud for six to 10 seconds. Do two sets of three to 10 repetitions for each leg. Gently lower your foot to the floor. Relax. Repeat with your other leg.

Strengthening exercises must be carefully designed for people with arthritis. Knowing which muscle needs to be strengthened and how to perform the exercise without overstressing the joints are key elements in a successful exercise program. Your physical therapist, occupational therapist and/or doctor can give you some appropriate recommendations.

### Endurance Exercises

Once you feel comfortable doing strengthening and ROM exercises, gradually include endurance exercises as well. You can begin by exercising five minutes, three times a day, to get a total of 15 minutes for that day. Over a period of time, try extending the endurance part of your exercise program to get a total of 30 minutes for the day, most days of the week.

Endurance exercises are beneficial because they strengthen your heart. They make your lungs more efficient and give you more stamina so that you can work longer without tiring as quickly. Endurance exercises also help you sleep better, control your weight and improve your overall sense of well-being.

Some of the most beneficial endurance exercises for people with arthritis are walking and water exercises.

### WALKING

Walking is better for people with arthritis than running because it puts less stress on your joints. It requires no special skills and is inexpensive. However, you will need a good pair of

supportive walking shoes. You can walk almost any time and anywhere. If you have severe hip, knee, ankle or foot problems, talk to your doctor; walking may not be for you or you may want to perform this activity in a pool.

### WATER EXERCISE

Swimming and exercise in warm water are especially good for stiff, sore joints. Warm water (between 83° and 88° F) helps relax your muscles and decrease pain. Water helps support your body so there is less stress on your hips, knees, feet and spine. You can do warm-water exercises while standing in shoulder- or chest-height water or while sitting in shallow water. In deeper water, use an inflatable tube or floatation vest to keep you afloat while you exercise.

### BICYCLING

Bicycling, especially on an indoor, stationary bicycle, is often a good way to improve your fitness. Adjust the seat height so that your knee maintains a slight bend when the pedal is at the lowest point. Don't add so much resistance that you have trouble pedaling. Exercising on a stationary bicycle should be started slowly, using limited or no resistance if you have knee problems.

### HOW SHOULD I START?

Talk to your health-care team before beginning any type of exercise program. If you haven't been exercising on a regular basis or have pain, stiffness or weakness that interrupts your daily activities, start your exercise program with ROM and strengthening exercises only.

### WHEN SHOULD I EXERCISE?

Try exercising at different times of the day until you decide what works best for you. Some

people find that doing morning ROM exercises helps them loosen up for the day's activities; others find that performing gentle ROM exercises before bed makes them less stiff in the morning. You may find it helpful to do a few short sessions of ROM exercises during different times of the day. A good guideline is to exercise during the time of the day when you are feeling less pain and stiffness and when you have adequate time to exercise.

Don't do strenuous exercises just after you eat or just before you go to bed. Wait at least two hours after a meal.

Exercise on a regular basis. Try to do ROM exercises daily and your strengthening and endurance exercises every other day. If you miss a day, just pick up again where you left off. If you miss several days, you may need to start again at a lower level.

## TIPS FOR BETTER EXERCISE

### Before Exercise

#### APPLY HEAT OR COLD TREATMENTS

Apply heat or cold treatments to the area you will be exercising. If your joints are warm, red or swollen you may want try using ice before exercise. If your joints are painful and stiff, but not warm or swollen, you might want to try using heat before exercise. Heat relaxes your joints and muscles and helps relieve pain. Cold also reduces pain and swelling for some people. There are many ways you can apply heat or cold. Some of the methods you may want to try are:

- taking a warm (not hot) shower before you exercise;
- applying a heating pad, hot pack or heat lamp to the sore area;
- sitting in a warm whirlpool; and/or

- wrapping a bag of ice or frozen vegetables in a towel and placing it on the sore area. (Gel packs, which are readily available from your pharmacy, can be kept in the freezer between uses and are convenient.)

Be sure to apply the heat or cold correctly. Heat treatments should feel soothing and comfortable, not hot. Apply heat for about 20 minutes. Use cold for 10 to 15 minutes at a time. For more advice on proper use of heat or cold, contact your local Arthritis Foundation for a copy of the booklet *Managing Your Pain*.

#### WARM UP

Whether you are doing ROM, endurance or strengthening exercises, it is important to take five to 15 minutes to warm up before exercise. This will reduce your chance of injury by helping your body prepare for and recover from exercise.

To warm up before doing ROM exercises, walk slowly while swinging your arms. Move gradually into full range-of-motion with a few gentle repetitions in mid-range first.

To warm up for endurance exercises, walk slowly or do a slow version of the activity you plan to do, then do gentle stretches. (To achieve a gentle stretch of the muscles and tissues around the joint, simply move toward the end of your range of motion, hold for five seconds and relax.) Gradually increase until you reach your endurance speed.

To warm up for strengthening exercises, walk slowly while doing arm swings. Then gently stretch the muscles you will strengthen.

#### WEAR COMFORTABLE CLOTHES AND SHOES

Your clothes should be loose and comfortable for easy movement. Layering your clothes

will help you adapt to changes in temperature and activity level. Your shoes should provide good support, and the soles should be made from non-slip, shock-absorbent material. Wearing shock-absorbent insoles also can make your exercise more comfortable.

## During Exercise

### DON'T HURRY

Exercise at a comfortable, steady pace that allows you to speak to someone without running out of breath. Exercising at this pace gives your muscles time to relax between each repetition. For range of motion and flexibility, it is better to do each exercise slowly and completely rather than to do many repetitions at a fast pace. You can gradually increase the number of repetitions as you get into shape.

### BREATHE WHILE YOU EXERCISE

Don't hold your breath. Breathe out (exhale) as you do the exercise, and breathe in (inhale) as you relax between repetitions. Counting out loud during the exercise will help you breathe deeply and regularly.

### BE ALERT FOR "WARNING SIGNS"

Stop exercising right away if you have chest tightness, severe shortness of breath or feel dizzy, faint or sick to your stomach. If these symptoms occur, contact your doctor immediately. If you develop muscle pain or a cramp, gently rub and stretch the muscle. When the pain is gone, continue exercising with slow, easy movements. If you have mild to moderate discomfort in your joints for a short time following exercise, that is ok. If you have an increase in pain, warmth or swelling following exercise that lasts for more than a couple hours,

you probably overworked your joints and should do less the next time you exercise.

### KNOW YOUR BODY'S SIGNALS

During the first few weeks of your exercise program, you may notice that your heart beats faster, you breathe faster and your muscles feel tense when you exercise. You may feel more tired at night, but awake feeling refreshed in the morning. These are normal reactions to exercise that mean your body is adapting to your new activities and getting into shape.

### DON'T DO TOO MUCH TOO FAST

Beginning to exercise should be a gradual process spread out over several weeks or more. You'll know you have done too much if you have joint pain that continues for two hours after exercising or if your pain, stiffness or fatigue is worse the next day. The Two-Hour Pain Rule says: If you have more arthritis pain (as opposed to sore muscles from exercise) two hours after you exercise than you did before, you've probably done too much and should cut back a little. Don't stop exercising, though. Not exercising can make your arthritis worse.

Next time, decrease the number of times you do each exercise, or do them more gently. If this doesn't help, ask your therapist about changing the exercise. A good general rule is to stop exercising if you start having sharp pain or more pain than usual. Pain is your warning signal that something is wrong.

## After Exercise

### COOL DOWN

It is important to cool down after exercise because it can reduce your chances of injury. To cool down, simply repeat the exercises that you

did for warm up. Be sure to cool down for five to 15 minutes, allowing your heart rate and breathing to return to normal. Ending with gentle stretches can prevent muscles from becoming too sore.

### HOW DO I KEEP GOING?

Keep a positive attitude about yourself and your exercise program. Remember that exercise can help reduce pain and help you keep up with most of your daily activities. But also remember that there will be days when you won't feel like doing as much. On these days, do a little less exercise.

The keys to keeping up with your exercise program are:

- Make exercise a regular part of your day.
- Stay in the habit by doing at least some exercise on those days when you aren't motivated. Make some effort, because interrupting the routine can decrease the benefits you get from exercise.
- Listen to your body's signals. Know when to cut back or change your exercise.

We can all find many reasons not to exercise. Here are some common problems you may experience and ways to overcome them.

**“I haven't exercised in so long. What if I can't do it?”** It's normal to feel hesitant about something you haven't done for a while. To overcome such feelings, try not to think of exercise as competition with others. Instead, focus on your own abilities and do what you can. Think positively. Each accomplishment, no matter how small, will help reinforce your confidence and self-esteem.

**“I'm out of shape. It will take too long to see results.”** Often long-term problems can be

addressed and managed by setting goals. You can use these same steps to make your exercise program successful:

- Decide what you want to accomplish (your long-term goal).
- Determine the steps needed to accomplish this goal. List your options, then choose one or two you would like to work on.
- Make short-term plans to help reach the options you have chosen. These plans identify specific actions that you can realistically expect to accomplish within a short time. These actions should be something that you want to do, that you feel you can do and that contribute to your long-term goal. Make a fitness contract with yourself. (See sample.) Keep a diary of what you are going to do, how much you will do, when you will do it and how often you will do it. Post your plan where you will see it every day.
- Carry out your plan. Record your progress and any problems you have. Also get your family and friends to provide feedback on how you are doing.
- Check the results of your short-term plans at the end of each week.
- Modify your plans if something does not seem to be working. If you continue having problems, ask others for help.

**“It hurts.”** It's normal to have some pain or soreness when you begin an exercise program. Always remember to warm up beforehand and to cool down afterwards to help relax your muscles and reduce the pain. Also, remember that exercising to build strong muscles and joints often reduces the pain of arthritis. Remember the Two-Hour Pain Rule.

## FITNESS CONTRACT FORM

This week I will: \_\_\_\_\_ Week of: \_\_\_\_\_

For Example: *This week I will walk*  
 (WHAT)  
*around the block before lunch three times.*  
 (HOW MUCH) (WHEN) (HOW MANY)

WHAT \_\_\_\_\_

HOW MUCH \_\_\_\_\_

WHEN \_\_\_\_\_

HOW MANY DAYS \_\_\_\_\_

HOW CERTAIN ARE YOU \_\_\_\_\_

(On a scale from 0-10 with 0 being totally unsure and 10 being totally confirmed. Note that ideally, a person should achieve a level 7 certainty.)

SIGNATURE \_\_\_\_\_

On those days when your joints are more painful and swollen, cut back on the number of exercises you do. If you notice a big change in what you are able to do, talk to your doctor or therapist. If just one or two joints are swollen or painful, you can adapt your exercises to put less stress on those joints. For example, if your knee is hurting, switch to water exercises or use a stationary bicycle without resistance instead of walking.

**“It’s boring.”** Do exercises you enjoy. Ask your therapist about new exercises that can add variety to your program. Listen to your favorite music while exercising. Exercise with friends or family members. If you walk or bicycle, go to the park or another pleasant area.

**“I don’t have enough time.”** Follow an exercise schedule. Several short exercise periods are just as good as one long period. Making time for exercise should not be a burden. Think of your exercise time as special time for yourself.

**“The weather’s bad.”** If you usually exercise with a group and can’t get to your class, do your exercises at home. If you swim or walk, have a backup plan for indoor exercises. For example, take a walk inside a shopping mall if the weather’s too bad to walk outside.

**“I don’t like to exercise alone.”** Ask friends or family members to exercise with you, or join an exercise class. An option is to try the Arthritis Foundation’s exercise programs, such as the Aquatics Program or PACE (People with Arthritis Can Exercise) Program.

**“It’s too much work.”** Maybe you’re being too ambitious about your exercise program. Maybe you’re trying to do too much. Relax! Exercising for fun is the best way to keep it up.

**“I lose interest and forget about it.”** If you’re having trouble sticking to your program, think about the things that can affect your attitude. Why did you want to start the program? Are these reasons still important? Keep a record of what you do and at the end of each day, check off the exercises you did.

**“My joints are not bothering me anymore.”** Exercise probably has a lot to do with this. Instead of stopping, try some different exercises or activities that will vary your program.

Check with your doctor before beginning any exercise program. The Arthritis Foundation is not responsible for any injury incurred while doing these exercises. These exercises have been taken from the Arthritis Foundation’s PACE manual.

FIGURE 1  
HEAD TURNS



- Look straight ahead.
- Turn head to look over shoulder.
- Hold three seconds.
- Return to front.
- Repeat to other side.

FIGURE 2  
SHOULDER CIRCLES



- Move shoulders slowly in a circular motion.

FIGURE 3  
FORWARD ARM REACH



- Position arms out in front, palms facing one another.
- Raise one or both arms forward and up as high as possible (one arm may help the other, if needed).
- Lower slowly.

FIGURE 4  
BACK PAT AND RUB

- Reach one arm up to pat back.



- Reach the other arm behind lower back.
- Slide hands toward each other.
- Hold three seconds.
- Alternate arm position.

FIGURE 5  
ELBOW BEND AND TURN



- Touch fingers to shoulders, palms toward you.
- Turn palms down as you straighten elbows out to side.

FIGURE 6  
WRIST BEND



- Stand with elbows tucked to sides.
- Bend wrists up.
- Hold three seconds.
- Bend wrists down.
- Hold three seconds.

FIGURE 7  
FINGER CURL



- Open hand flat, fingers straight.
- Bend each joint slowly to make a loose fist.
- Hold three seconds.
- Straighten fingers again.

FIGURE 8  
KNEE LIFT



- Sit straight up.
- Lift one knee up three or four inches off chair.
- Hold three seconds and lower.
- Repeat with other knee (you may help by lifting with your hands under your thigh).

FIGURE 9  
LEG BEND AND LIFT



- Sit up straight.
- Bend knee, putting heel under chair.
- Hold three seconds.
- Straighten knee out in front.
- Hold three seconds.

FIGURE 10  
ANKLE CIRCLES



- Sit up straight, one foot extended in front.
- Turn sole of foot in and out.
- Move foot around in a slow, large circle.
- Change directions.

## FOR MORE INFORMATION

Exercising makes you more fit and healthy. It helps keep your bones and muscles strong, your joints healthy and gives you more energy to keep up with daily activities. This is especially important if you have arthritis.

Contact your local Arthritis Foundation chapter for a complete list of free brochures about different types of arthritis and related conditions, treatments and self-management techniques. Single copies of all brochures are available at no charge. To find a chapter in your area, call (800) 283-7800 or log on to [www.arthritis.org](http://www.arthritis.org). In addition, the services listed below may be available in your area.

## Brochures

Brochures that you may find helpful include:

- **Managing Your Activities** – Suggestions on using your joints wisely during daily activities, plus lists of self-help aids.
- **Managing Your Fatigue** – Information about arthritis-related fatigue and tips on how to manage it.
- **Managing Your Pain** – An overview of how arthritis causes pain, how you react to pain and how you can manage it.
- **Managing Your Stress** – Tips for reducing the stress associated with arthritis.
- **Surgery & Arthritis: What You Need to Know** – A description of the types of joint surgery, plus questions to ask your doctor prior to surgery and what to expect afterward.

## Services

- **Arthritis Self-Help Course** – Learn how to take control of your own care in this six-week (15-hour) class for people with arthritis.

- **Arthritis Foundation Aquatics Program** – Join in the fun of a six- to 10-week warm-water pool exercise program.
- **PACE (People with Arthritis Can Exercise)** – Move easier in several levels of exercise classes, or exercise at home by purchasing an Arthritis Foundation exercise videotape.

## THE ARTHRITIS FOUNDATION

The mission of the Arthritis Foundation is to improve lives through leadership in the prevention, control and cure of arthritis and related diseases.

The Arthritis Foundation supports research with the greatest potential for advances and has invested more than \$320 million in these efforts since its inception in 1948. Additionally, the Arthritis Foundation supports key public policy and advocacy efforts at a local and national

level in order to make a difference on behalf of 70 million people living with arthritis.

As your partner in taking greater control of arthritis, the Arthritis Foundation also offers a large number of programs and services nationwide to make life with arthritis easier and less painful and to help you become an active partner in your own health care.

Contact us at (800) 283-7800 or visit us on the Web at [www.arthritis.org](http://www.arthritis.org) to become an Arthritis Advocate or to find out how you can become involved.

The Arthritis Foundation gratefully acknowledges Bruce Clark, RPT, Clark Physical Therapy, Vancouver, British Columbia, Canada; Judy Piette, PT, Georgia South Hand Therapy, Stockbridge, GA; and Doreen Stiskal, PT, MS, PhD, Seton Hall University, South Orange, NJ, for their assistance with this booklet.

**For more information:** The Arthritis Foundation offers a wide variety of books, brochures and videos about different forms of arthritis, treatment and self-management techniques to help you take control of your arthritis. To order any of these products, become an Arthritis Foundation member or to subscribe to the Arthritis Foundation's award-winning consumer health magazine, *Arthritis Today*, call (800) 283-7800. Call or visit our Web site ([www.arthritis.org](http://www.arthritis.org)) to find out how you can take control of your arthritis and start living better today!

### MISSION STATEMENT:

The mission of the Arthritis Foundation is to improve lives through leadership in the prevention, control and cure of arthritis and related diseases.

This brochure has been reviewed by the AMERICAN COLLEGE OF RHEUMATOLOGY.



© 2003. Arthritis Foundation, Inc., Atlanta, GA. All rights reserved. For individual use only. Material in this publication may not be reprinted without permission. Send requests for reprint permissions in writing to 1330 W. Peachtree St., Suite 100, Atlanta, GA 30309. For more information about arthritis, call 800/283-7800.

[www.arthritis.org](http://www.arthritis.org)  
800-283-7800