



# Ease the Pain of Arthritis

With  
**Exercise**

## Staying Active Helps

BY KELLI CHRISTENSEN, MS, CSCS

As fitness professionals, it may be difficult to imagine living with a disease that makes it painful to move. But for an estimated 46 million adults in the United States with a diagnosed form of arthritis, gout, lupus or fibromyalgia,<sup>1</sup> pain with movement can make daily life a challenge.

According to the Centers for Disease Control (CDC), arthritis is a term used to describe more than 100 different conditions that affect joints as well as other parts of the body. Furthermore, arthritis is one of the most prevalent chronic health problems and among the nation's most common causes of disability.<sup>2</sup>

Arthritis can be managed with medication, lifestyle modification and, in some cases, surgery. Staying active has been found to be one of the most effective lifestyle modifications. Recent research has shown that without regular physical activity, a person with arthritis nearly doubles their risk of a decline in daily function.<sup>3</sup>

Two of the more common types of arthritis are osteo- and rheumatoid arthritis. Since arthritis is categorized by which area of the joint is affected by the disease, it is helpful to review the components that make up a joint.

#### Joint Anatomy

A joint is where two or more bones come together. The moveable joints found in the limbs of the body contain three main elements: articular cartilage, a thick elastic tissue that covers the ends of the bones; a fibrous joint capsule; and synovial fluid, which fills the space between the bones and is surrounded by a synovial membrane.

#### Osteoarthritis

Osteoarthritis (OA), also known as degenerative joint disease, typically affects the hips, knees, feet, spine and hands. Sometimes considered a "wear and tear" injury, OA is characterized by the

gradual thinning and eventual wearing away of the articular cartilage, causing bone-on-bone movement. While aging is known as the primary risk factor, it doesn't mean that everyone will develop this disease as they grow older. In fact, osteoarthritis is more likely to affect a joint that has been injured or compromised in some way, altering the stress distribution across the cartilage.<sup>4</sup> Contrary to public belief, repetitive high impact activities, like running, have not been found to cause joint degeneration in healthy joints, but these activities do tend to exacerbate wearing away of the cartilage in abnormal joints.<sup>4</sup>

### Rheumatoid Arthritis

Rheumatoid arthritis (RA) is a chronic inflammatory disease that can affect a variety of tissues, including joints, blood vessels, skin, cardiac muscle and lungs.<sup>4</sup> The cause of RA is currently unknown, but it appears to be triggered by an abnormal response from the autoimmune system. Unlike OA, this disease is not a wearing away of the joint cartilage, but an inflammation of synovial membrane in the joint. This type of arthritis is most often diagnosed in people ages 30 to 60 and tends to affect more women than men. Why women are more susceptible is not clear. Any moveable joint in the body can be affected by RA and it usually occurs bilaterally, meaning if a joint on one side of the body is affected, the other is as well. Typically, RA begins with stiffness and aching in the joints of the hands, feet and knees and is often accompanied by weight loss, fatigue, numbness, and tingling in the hands and feet. Symptoms of RA can come and go and periods of mild disease can be accompanied by flare-ups where the pain and inflammation are intensified.<sup>6</sup>

### Exercise and Arthritis

Due to pain and stiffness that tend to worsen with prolonged activity, people affected by arthritis are usually more sedentary, increasing not only their risk for disability, but also for secondary health conditions such as heart disease, hypertension, diabetes, depression, obesity and some cancers.<sup>7</sup>

The goal of the fitness professional working with clients who have arthritis should be to help them improve or maintain their ability to function, while also working to correct the imbalances and weakness caused by inactivity. The American College of Sports Medicine (ACSM) states that exercise progression should be slow to allow clients to adapt physiologically, prevent exacerbation of symptoms and reduce potential for noncompliance.<sup>7</sup>

### Building a Program for a Client With Arthritis

While OA and RA are two distinctive types of arthritis, exercise recommendations for clients affected with either disease are similar. The only difference is that RA clients may require more rest and slower progression to protect against flare-ups or undue inflammation.<sup>7</sup>

Restoring range of motion in the joints should be the main focus when developing a program for clients with arthritis. This is best achieved through flexibility exercises. If pain and stiffness are preventing clients from stretching effectively, the Arthritis Foundation suggests a hot shower or bath prior to exercise, which can help loosen the joints and muscles, and make them more receptive to activity. Clients should strive to stretch for at least 15 minutes per day. Unless a doctor or other medical professional advises against it, all major muscle groups should be emphasized, and simple activities such as extension and flexion of the shoulders, hips, knees and elbows can dramatically improve your client's ability to function. Static stretching in a slow controlled manner with each stretch held for 15 to 30 seconds provides the most benefit.

Once a client has improved their range of motion through flexibility exercises, their program can progress to include some resistance training activities. Resistance training can increase muscle strength, protect joints from injury, and can help with balance to prevent falls. There are two types of resistance training exercises—isometric and isotonic. Isometric strengthens muscles by tensing them without moving joints, whereas isotonic involves muscle tension through joint movement. Depending on your client's disease, a strength program can be developed using a combination of both. Hand-held weights, resistance bands or even body weight can be effective tools. Multi-joint exercises allow clients to better handle activities of daily living like climbing stairs, standing from a seated position, walking and lifting. Resistance training should start with light weights and low to moderate repetitions and be progressed slowly, working up to two or three days per week.

Aerobic exercise improves heart and lung function, while also helping to maintain weight and preventing comorbidities associated with heart disease. Care should be taken when selecting aerobic activities for a client with arthritis. Nonimpact activities such as water exercise, biking or rowing, may be preferable from a pain perspective. Warm water aerobic exercise is popular with many clients; the Arthritis Foundation offers an aquatic program in conjunction with YMCAs across the country.<sup>8</sup> Intensity should be moderate, and again, it makes sense to start out slowly until you know how it impacts your client. The goal is to accumulate 30 to 60 minutes of exercise, 3 to 4 times per week.<sup>7</sup>

Fitness professionals should be aware of what type of arthritis their clients have and be careful not to progress their exercise programs too quickly, which may cause unnecessary pain, exacerbation of symptoms or worse, noncompliance with exercise.

While living with arthritis can be challenging, lifestyle modification through exercise can help people manage the disease and maintain their ability to function independently.

A good resource for information is the Arthritis Foundation, which can be accessed at [www.arthritis.org](http://www.arthritis.org).

AF

.....  
**Kelli Christensen, MS, CSCS**, is certified as a clinical exercise specialist through ACSM. She offers clients exercise planning, fitness testing and personal training through her Colorado-based company, Well Bodies, and enjoys writing on a variety of health and exercise topics.

### REFERENCES:

1. CDC. "PREVALENCE OF DOCTOR-DIAGNOSED ARTHRITIS AND ARTHRITIS ATTRIBUTABLE ACTIVITY LIMITATION—UNITED STATES, 2003-2005." *MORBIDITY AND MORTALITY WEEKLY REPORT*, 55, NO. 40 (OCT 2006): 1089-1092.
2. CDC. "PREVALENCE OF DISABILITIES AND ASSOCIATED HEALTH CONDITIONS AMONG ADULTS—UNITED STATES, 1999." *MORBIDITY AND MORTALITY WEEKLY REPORT*, 50, NO. 7 (FEB 2001): 120-5.
3. SONG, J., CHANG, R.W. AND DUNLOP, D.D. "POPULATION IMPACT OF ARTHRITIS ON DISABILITY IN OLDER ADULTS." *ARTHRITIS & RHEUMATISM*, 55, NO. 2 (APR 2006): 248-255.
4. LEMURA, L. AND VON DUVILLARD, S. *CLINICAL EXERCISE PHYSIOLOGY: APPLICATION AND PHYSIOLOGICAL PRINCIPLES*. LIPPINCOTT WILLIAMS & WILKINS, 2004.
5. ARTHRITIS FOUNDATION: DISEASE CENTER. "RHEUMATOID ARTHRITIS." [WWW.ARTHRITIS.ORG/DISEASE-CENTER.PHP](http://WWW.ARTHRITIS.ORG/DISEASE-CENTER.PHP) [ACCESSED MAR 6, 2009].
6. ARTHRITIS FOUNDATION. "FREQUENTLY ASKED QUESTIONS ABOUT RHEUMATOID ARTHRITIS." *ARTHRITIS TODAY* [2008]. [WWW.ARTHRITIS.ORG/FAQS-ABOUT-RA-2.PHP](http://WWW.ARTHRITIS.ORG/FAQS-ABOUT-RA-2.PHP) [ACCESSED FEB 5, 2009].
7. AMERICAN COLLEGE OF SPORTS MEDICINE. *ACSM'S RESOURCES FOR CLINICAL EXERCISE PHYSIOLOGY*. LIPPINCOTT WILLIAMS & WILKINS, 2002.
8. ARTHRITIS FOUNDATION. "AQUATIC PROGRAM." [WWW.ARTHRITIS.ORG/AQUATIC-PROGRAM.PHP](http://WWW.ARTHRITIS.ORG/AQUATIC-PROGRAM.PHP) [ACCESSED FEB 5, 2009].