

## Physical Activity & Exercise for Arthritis

Introduction ①	Understanding Arthritis ②	Benefits & Risks of Exercise ③
Exercise Programming for Arthritis ④	Running & OA: Myth or Reality? ⑤	Final Quiz

Select a square to view a section or click on NEXT.

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1

## Introduction

### Course Objectives

Upon completion of this course, students will be able to:

- Describe the basic pathophysiology, epidemiology, risk factors, and common symptoms of osteoarthritis and rheumatoid arthritis,
- Understand disease-specific benefits and risks associated with physical activity/exercise, and
- Apply exercise recommendations and special considerations for individuals with arthritis.



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4

## Understanding Arthritis

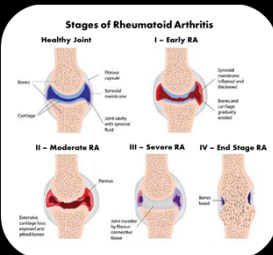
### Stages of Rheumatoid Arthritis (RA)

**Early stage RA (stage I)** is characterized by inflammation of the synovial membrane (synovitis) and joint capsule, causing swelling of involved joints, stiffness, and pain upon motion.

In the **moderate stage of RA (stage II)**, the spread of inflammation in the synovial tissue becomes severe enough that it creates cartilage damage accompanied by a narrowing of the joint space.

**Severe RA (stage III)** is marked by formation of **pannus** in the synovium and **fibrous ankylosis**. Loss of joint cartilage exposes bone beneath the cartilage. Joint deformities may also become evident.

**Stage IV** is called **terminal** or **end stage RA**. The inflammatory process has subsided and fibrous tissue has advanced to **bony ankylosis**, or fusing of bones leading to joint immobility.



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11

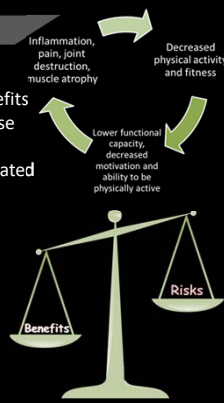
## Benefits & Risks of Exercise

### Section Overview

This section will review some research reports investigating the potential benefits of physical activity and exercise for those with arthritis, summarize the expected benefits, and note inherent risks associated with exercise.

Based on data from the National Health Interview Survey, in 2015, 36.2% of US adults with arthritis met the aerobic physical activity guideline, 17.9% met the muscle strengthening guideline, and an estimated 13.7% met both guidelines.

Murphy et al. (2017)




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15

## Exercise Programming for Arthritis

### Section Overview

This section will review recommendation statements in support of physical activity to manage arthritis published by various organizations and guidelines for exercise programs designed for individuals with arthritis.




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20

## Running and Osteoarthritis: Myth or Reality?

### Section Overview

This section will review the research in an attempt to answer the question, "Does running cause arthritis of the knees?"



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30