YAQUATICS™

Arthritis Foundation® Life Improvement Series | ARTHRITIS FOUNDATION® Take Control. We Can Help.™

Arthritis Foundation/YMCA Aquatic Program

Arthritis Foundation Exercise Program

Leader/ Instructor Pre-Training

YAQUATICS™

Arthritis Foundation® Life Improvement Series | ARTHRITIS FOUNDATION® Take Control. We Can Help.™

Table of Contents

How to Use This Workbook

Purpose

The purpose of this pre-training workbook is to prepare you for the in-person Arthritis Foundation/YMCA Aquatic Program or Arthritis Foundation Exercise Program Instructor Training Workshop. This workbook covers basic aspects of arthritis and its treatment and an overview of the psychosocial aspects of arthritis.

You will be able to use this workbook at your own pace as long as you complete the required assignments in the book prior to coming to the classroom portion of this training.

What you will need

Contained in this book are activities with questions that you will have to answer. Answers to the questions can be found in this book. Therefore, you will need a quiet place to work with limited distractions so you can stay focused.

Activities

In this workbook, you will have activities to complete. Some of the activities will have an answer key found in designated Appendix sections. Other activities have answers built right into them.

How to Use This Workbook (*continued)*

Suggested Timing

Below you'll find suggested timing for each section. Please note that this is a guide to allow you to plan your time accordingly.

Timing Breakdown

Introduction: Defining Arthritis	5
Joint Structure	10
Types of Arthritis	10
Living with Arthritis	2
Signs and Symptoms	8
Special Sensitivities	5
Treatments for Arthritis	5
Common Types of Arthritis and Treatments	15
Three Types of Exercise for Arthritis	10
Knowledge Check	10
Total Time	**80**
One hour and 20 min	

What to Bring to Class

- This workbook
- Completed Knowledge Check (be prepared to hand in to Trainer)

Pre-Training Overview

Course Purpose
The purpose of using this Pre-Training Workbook is to provide an overview of basic medical aspects of arthritis, its treatment and psychosocial impact. Completion of this workbook is a requirement for training and certification as an Arthritis Foundation/YMCA Aquatic Program Leader or Instructor or Arthritis Foundation Exercise Program Instructor.

Objectives

At the conclusion of completing this Pre-Training Workbook, you can expect to be able to:

- Define arthritis.
- Comprehend joint function and the anatomy of a joint.
- Recognize the four most common types of arthritis seen in participants.
- Identify the different types of arthritis.
- Aid in the understanding of what it is like to live with arthritis.
- Identify key signs and symptoms of arthritis.
- Describe the psychosocial impact of living with arthritis.
- Adhere to special sensitivity guidelines when referring to people with arthritis.
- Identify at least three arthritis treatment approaches.
- Describe the three important types of exercise for people with arthritis.

What you as an instructor need to know about your participants

- ❑ People of any age live with arthritis, rheumatic diseases or related musculoskeletal conditions.
- ❑ People with arthritis have varying degrees of capabilities and so the program can be geared to different levels. For instance, you can offer:
    - o A basic level program for those currently living a sedentary lifestyle and seeking a low-intensity exercise program, and/or,
    - o A “Plus” or more advanced or mixed class for those currently living a more active lifestyle and able to achieve and sustain moderate-intensity exercise levels and longer periods of endurance exercise.

Introduction: Defining Arthritis

Many people have heard of arthritis but may not have a basic understanding of what it is. Some have arthritis or know someone who has arthritis and may have slightly more knowledge of what it actually means. To begin your training, it is important to have a definition of what arthritis actually is.

The word **arthritis** is a general term that means “joint inflammation” (arth = joint; itis = inflammation). A joint is a place in the body where two bones meet. Inflammation is a natural protective response but in various types of arthritis, it can damage joints and other body parts.

The term arthritis refers to more than 100 rheumatic conditions, inflammatory and non-inflammatory, affecting not only joints but also surrounding structures and other tissues. Many forms of arthritis are *systemic* diseases (pertaining to or affecting the body as a whole) that can cause generalized fatigue and problems with the skin, eyes, heart, lungs, kidneys and other parts of the body.

Forty-six million Americans (one in five people) have been diagnosed with arthritis.

There are several misconceptions about arthritis. Some of these you may have some knowledge about and some you may not have considered before. Below is a list of beliefs about arthritis. For each belief, identify whether you think the statement is True or False.

Exercise #1

Beliefs	True/False
1. Every day is the same for people with arthritis.	
2. Only old people have arthritis.	
3. Poor diet causes arthritis.	
4. Arthritis is a minor physical inconvenience.	
5. There is very little that can be done to help people with arthritis.	

Introduction: Defining Arthritis *(continued)*

If you answered **False** to all of the beliefs, you are correct. If you answered **True** to couple of them, that's okay. Many people who don't know about arthritis think this way. The first step in changing misconceptions is learning about the facts of arthritis:

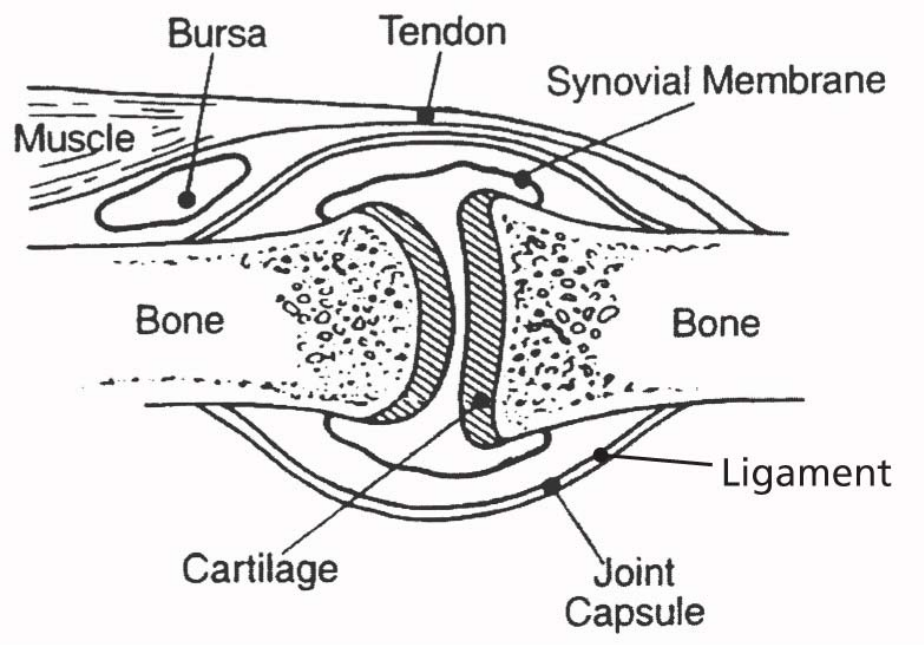
1. Many people with arthritis have disease activity that fluctuates with flare-ups, when symptoms worsen, and remissions, times when the symptoms lessen or disappear.
2. Arthritis affects all ages and arthritis is NOT an inevitable part of aging. Nearly three out of five people with arthritis are under the age of 65 and even children get arthritis.
3. Diet can not cause or cure arthritis, although reducing weight if you are overweight can help reduce pain.
4. Arthritis is the most common cause of disability in the U.S., making it difficult for many Americans to bathe, dress, reach and do other simple activities of daily living.
5. Most forms of arthritis are chronic, meaning they last a lifetime; early, aggressive treatment can do a lot to control symptoms and reduce their impact.

After completing this workbook, you will have a broader understanding of what arthritis is, the effect it has on people physically and emotionally, how to be sensitive to what they are going through on a daily basis and what treatment is available. Be prepared to answers questions in class related to the material contained in this pre-training.

Joint Structure

To understand what happens in arthritis, rheumatic diseases and related musculoskeletal conditions, it is helpful to be familiar with the structure of a joint.

Structure of a Healthy Joint



Bone – A relatively hard, porous substance that provides a supporting framework for the body. It serves as a place for attachment of muscles and provides a storehouse of minerals such as calcium that the body can draw on. Bones are living tissue capable of local growth and rebuilding, as in healing a fracture. In *osteoporosis*, bones lose mass and become thin and brittle, leading to fractures.

Cartilage – A tough material that cushions and protects the bone ends. The end of each bone is covered with cartilage. In *osteoarthritis,* there is a breakdown of cartilage.

Synovial Membrane (synovium) – Lines and protects each joint by secreting a synovial fluid that lubricates and nourishes the joint. In *rheumatoid arthritis*, the synovium becomes inflamed and can damage the other joint tissues.

Muscles – Contractile tissue that moves the bones by becoming shorter or longer and thus moves you. *Fibromyalgia* involves pain in the muscles and *polymyositis* is an inflammatory condition of muscles.

Structure of a Healthy Joint *(Continued)*

Tendon - A cord like a strong fiber which attaches the muscles to the bones. Inflammation of a tendon is called *tendonitis*.

Ligament – Short, fibrous cords that attach bones to bones and reinforce the joint capsules. In *ankylosing spondylitis,* there is inflammation where the ligaments and tendons attach to the bone.

Bursa – A small fluid-filled sac near the joint that acts as a cushion between the bone and tendons or muscles. Inflammation of a bursa is called *bursitis*.

Joint Capsule – A membrane that encloses the components of a joint and helps maintain them as a unit.

Types of Arthritis

Think of arthritis as an “umbrella” term. Because there are more than 100 types of arthritis and related conditions, it is important to know the different types of arthritis or related diseases your class participants may have. Let’s begin with the four forms that are most commonly seen in participants.

Four Common Types of Arthritis and Related Conditions

1. Osteoarthritis (OA)
2. Rheumatoid Arthritis (RA)
3. Fibromyalgia
4. Osteoporosis

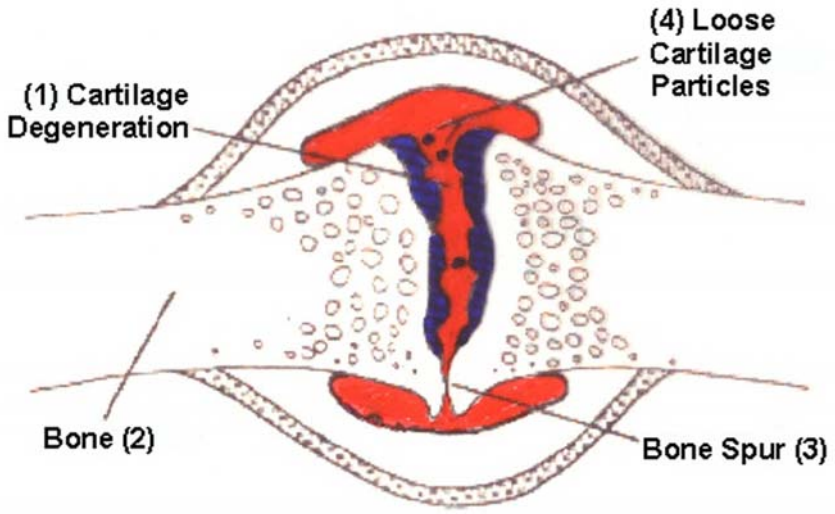
Notes:

Osteoarthritis (AHS-tee-oh-arth-RI-tis) is the most common type of arthritis.

What happens: In OA, which is also called degenerative arthritis, the protective cartilage covering the bones wears away, resulting in bones rubbing together. In addition to considerable joint pain, this friction may result in swollen joints, limited motion, changes in the underlying bone, development of bony growths called spurs and eventually joint malalignment as the joints lose shape. It is likely to begin over the age of 45.

Key features: Usually localized involvement of one or a few joints; typical joints affected include the knees, hips, the middle and end finger joints, and the spine; stiffness after inactivity.

Treatments: Analgesics to reduce pain; exercise; weight loss (if overweight); the application of heat or cold; and sometimes joint replacement surgery.

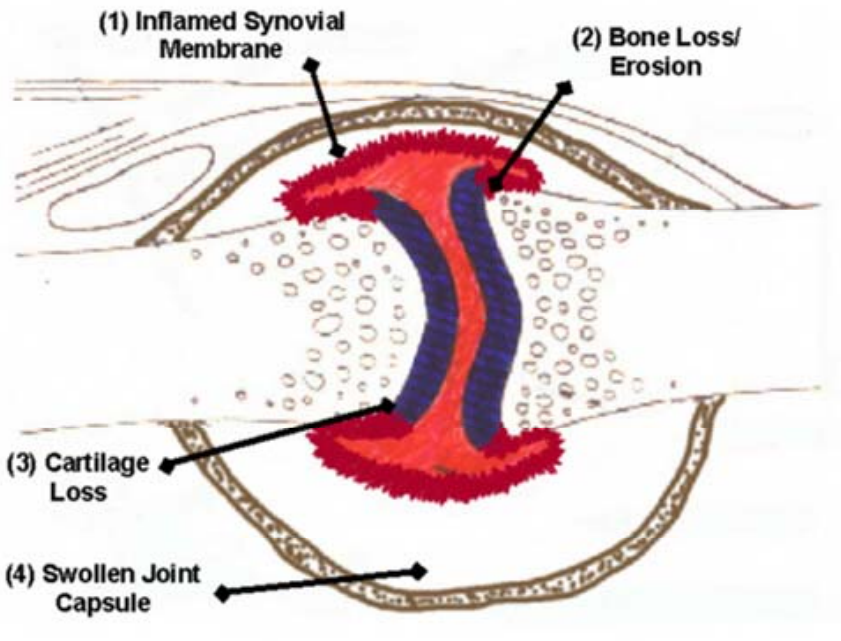


Rheumatoid Arthritis (ROO-muh-toyed arth-RI-tis) is another common type of arthritis seen in participants.

What happens: RA is a reaction by the body's immune system resulting in chronic, systemic inflammation. In RA, the inflamed joint lining (synovium) thickens and invades and damages bone and cartilage. These changes results in pain and loss of movement. Eventually complete destruction of the joint can occur. It usually begins between ages 25-50, but can occur at any age and more commonly affects women.

Key features: Pain, redness, swelling, warmth in any joint of the body including the small bones in the hands and feet, shoulders and elbows; usually symmetrical (affecting same joint on both sides of body); lumps on the back of the elbows (called rheumatoid nodules); systemic involvement causes general feeling of fatigue, morning stiffness, weakness, malaise and problems with internal organs.

Treatments: Medications to reduce inflammation and stop or slow down disease progression; balanced exercise program; joint protection and energy conservation; physical and occupational therapy; and surgery as needed.

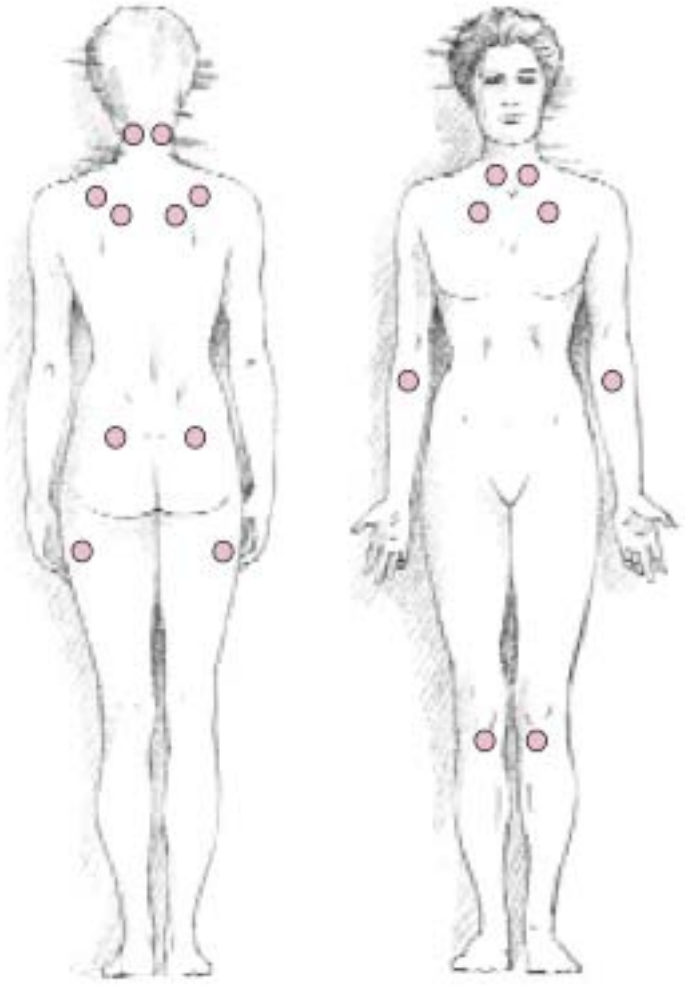


Fibromyalgia (Fye-bro-my-AL-ja) is a related condition that does not affect the joints.

What happens: Fibromyalgia is a condition that involves pain in the muscles and soft tissues.

Key features: Pain at distinct tender points as well as generalized pain, aches and stiffness; fatigue and disturbed sleep.

Treatments: Exercise; relaxation techniques; medications to reduce pain and improve sleep, such as low-dose antidepressants.

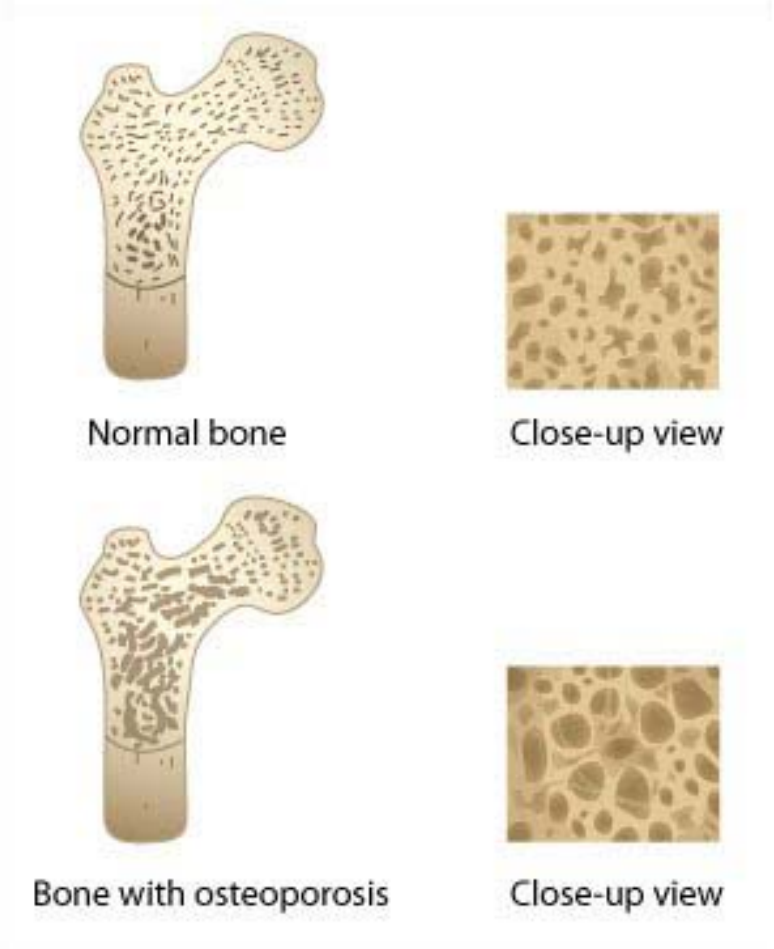


Osteoporosis (AHS-tee-oh-poor-OH-sis) is another arthritis-related condition that does not directly affect the joints.

What happens: Bones break down faster than they can be replaced, resulting in a loss of bone mass, making the bones brittle and more likely to break.

Key features: Painful fractures, dowager's hump, rounded shoulders and loss of height.

Treatments: Exercise, increasing calcium and vitamin D, taking hormone replacement and other medications to reduce bone loss, fall prevention techniques



YMCA

ARTHRITIS FOUNDATION® Take Control. We Can Help.™

Exercise #2: Recognize the Arthritis Umbrella

In addition to the four common types of arthritis seen in participants, this is a list of other types of arthritis and related diseases. Review each type and its definition.

Arthritis Type	Definition
Ankylosing Spondylitis (an-kee-lo-sing spahn-dee-LIE-tis)	A genetic disease with inflammation where the ligaments and tendons attach to the bone. The most involved joint in this disease is the sacroiliac, which attaches the sacrum at the bottom of the spine to the pelvic bones. Over time the condition may progress up the spine, leading to spinal stiffness. Hips, knees and shoulders may also become stiff.
Bursitis/Tendinitis	Inflammation of a bursa or tendon; it occurs most commonly in the shoulder, elbow, hip and knee.
Gout	A form of arthritis most commonly seen in adult males. In most cases, it occurs because of reduced elimination of uric acid by the kidneys. Acute attacks are caused by the formation of uric acid crystals in the joints, causing a local inflammatory reaction.
Juvenile Arthritis	A systemic disease involving joint inflammation in children that may involve one, several or multiple joints. Many children get a mild form of arthritis affecting only a few joints which does not continue into adult life. Other children have a more severe form that resembles adult rheumatoid arthritis.
Lupus (also known as systemic lupus erythematosus [sis-TEM-ick LOO-pus err-ee-them-ah-TOE-sus])	An inflammatory condition that can affect many organ systems, including joints, skin, kidneys, lungs, heart and brain. Arthritis is a common symptom along with fever and skin rash. Considered to be an autoimmune disease, which means that antibodies created by the body attack other parts of the body.
Polymyositis (pal-ee-mi-oh-SI-tis)	Inflammatory condition of muscles. The most common symptom is muscle weakness in the hips and shoulders. It may occur alone or in association with other rheumatic diseases.

Living with Arthritis

Think about all of the daily tasks that you do. How many of those tasks do you actually have to stop and think about doing?

For example, it's lunch time and you want to make a peanut butter and jelly sandwich for yourself. You reach to your cupboard, open the door, pull the peanut butter jar off of the shelf, open the jar using your hands, and get it ready to put on your bread. Then you open the refrigerator, get your jelly container, and open the jelly container using your hands so it's ready for you to put it on the bread. Simple, right? Not for someone who has arthritis.

Imagine doing this task and having to always battle the pain of opening a jar of peanut butter or reaching to the cupboard to get the jar. Movement is painful for someone who has arthritis. That individual has to stop and think about how they move their body and position themselves in a way that isn't going to aggravate their joint pain further. Sometimes they don't use that part of the body at all, and as a result overcompensate and use another part of the body to get daily tasks accomplished.

The next few pages will review the signs, symptoms and experiences of a person living with arthritis.

Signs and Symptoms of Arthritis

The various types of arthritis can cause many different types of symptoms which can vary in severity from person to person. Even within the same person, many arthritis diseases have unpredictable up and down courses. However, to get a diagnosis, most people with arthritis typically have one or more of the following physical signs that have lasted for more than two weeks:

Key Warning Signs and Symptoms of Arthritis

- Recurring pain and tenderness in one or more joints
- Inflammation (redness, swelling, heat and pain) in one or more joints
- Stiffness in the morning or after periods of inactivity
- Difficulty moving a joint
- Unexplained weight loss, fever, fatigue, weakness, poor appetite

As a result of these physical signs and symptoms, and because most forms of arthritis are chronic, people can experience many other types of inter-related **psychosocial** issues.

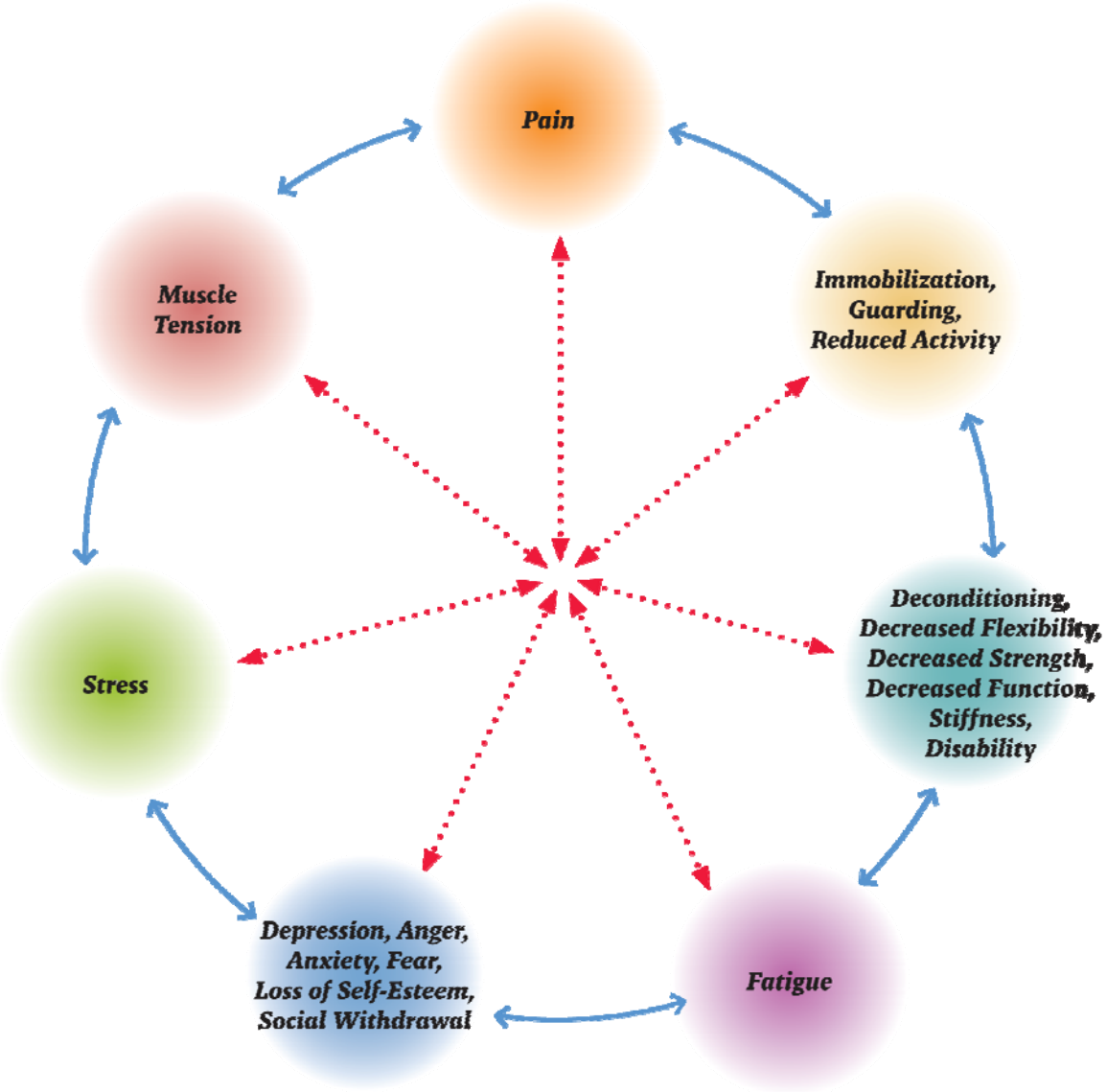
Signs and Symptoms *(continued)*

Psychosocial Aspect

The term **psychosocial** refers to one's emotions and how one interacts within a social environment. People with arthritis may feel anxious, fearful of an uncertain future, depressed, helpless or angry. In addition, they may experience loss of function and independence resulting in a lowered self-esteem, withdrawal from social activities, and other significant lifestyle changes and financial difficulties. Indeed, many participants may be stuck in what is known as the Chronic Illness Symptom Cycle.

Notes:

Chronic Illness Symptom Cycle



When individuals experience **pain** in a certain part of the body, they have a tendency to **guard** and stop moving that body part, reducing their overall activity. Keeping a painful joint in a flexed position leads to stiffness and ultimately deformity.

Reduced activity also leads to **stiffness, decreased flexibility**, and **loss of function** (disability).

Fatigue can also occur along with reactions like **loss of self-esteem, anger, depression, withdrawal from social activities** and **stress.** Stress can lead to **muscle tension** and **increased pain** and so on through the cycle. The reverse can also occur—pain can lead to tense muscles. As your participants experience more pain, they may feel more stressed, depressed, fatigued and withdrawn. The cycle goes back and forth between symptoms or crosses the center; any of the points can feed upon each other.

The good news is that the Arthritis Foundation/YMCA Aquatic Program and the Arthritis Foundation Exercise Program provide the opportunity to break the cycle at multiple points:

- Moving in warm water in the Aquatic Program and the joint-friendly exercises in both programs can have these potential physical benefits:
    - Decreased pain and stiffness
    - Increased mobility/flexibility
    - Increased strength
    - Improved function and the ability to do daily activities
    - Improved balance and coordination
    - Easier ambulation
    - Improved endurance

- Getting people out of their homes for a group recreational activity and the Health Education and relaxation components in the Exercise Program can have these potential psychosocial benefits:
    - Outlet for stress and negative feelings
    - Increased feeling of well-being
    - Decreased depression
    - Socialization and a decreased sense of isolation

Special Sensitivities

There are a number of special sensitivities to be aware of when interacting with people who have arthritis. It is important to create a supportive, non-threatening environment when referring to participants.

Exercise #3
Here are some possible terms to use when referring to participants. In the second column, indicate whether each term is appropriate to use when referring to people with arthritis:

Way to refer to people with arthritis	**Okay to use?**
Sufferer	❒ Yes ❒ No
Arthritic	❒ Yes ❒ No
Person with arthritis	❒ Yes ❒ No
Patient	❒ Yes ❒ No
Person with a disability	❒ Yes ❒ No
Able-bodied	❒ Yes ❒ No

Turn to the next page to see how you well you did.

Special Sensitivities (*continued)*

Way to refer to people with arthritis	Okay to use?
Sufferer	❒ Yes ☑ No
Arthritic	❒ Yes ☑ No
Person with arthritis	☑ Yes ❒ No
Patient	❒ Yes ☑ No
Person with a disability	☑ Yes ❒ No
Able-bodied	❒ Yes ☑ No

Remember that your participants are people first, who happen to have arthritis. Use positive language when teaching your class. As an Instructor, your role is to make sure everyone feels included and welcome. Work with and include every participant as much as possible so no one feels left out. The following guidelines denote the Arthritis Foundation national policy:

1. Avoid referring to people with arthritis as “sufferer,” “victim,” “arthritic,” or “cripple” or calling the disease a “crippling disease.” These words carry an inferiority which is not an image that is condoned. Calling someone a “patient” is used only in the sense of a strict doctor-patient relationship. A general rule is to refer to people as participants with arthritis.

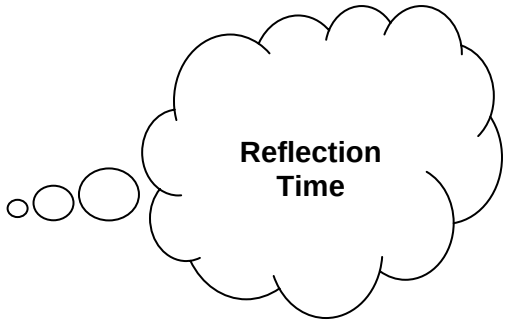
2. The word “disability” is preferred rather than “handicapped” when referring to people with severe physical impairment due to arthritis. A disability is a medical condition, whereas a handicap is the cumulative result of the obstacles that a disability poses.

3. Avoid portraying people with disabilities who succeed as “superhuman.” This implies that people who are disabled have no talents. Similarly, avoid using emotional descriptions such as “unfortunate,” “pitiful,” etc. to describe people with disabilities. Emphasize abilities, such as “uses a wheelchair” rather than “is confined to a wheelchair.”

4. Do not refer to people who do not have arthritis as “able-bodied” or “whole.” (Does arthritis make someone into a half person?) When a distinction is needed between people who are disabled by arthritis and those who are not, refer to them as “disabled” and “non-disabled.”

Special Sensitivities (*continued)*

In addition to understanding these special sensitivities, it is important to visualize how you will address special sensitivities should they arise in your class. In the spaces below, capture your personal reflections on how you will handle these special sensitivities.



I understand the importance of NOT calling someone who has arthritis a “sufferer” because:

I understand the importance of using the word “disability” rather than “handicapped” because:

Ensuring that everyone feels welcomed and embraced from the community is important because:

Resources or people I can connect with to learn more about arthritis are:

YMCA

ARTHRITIS FOUNDATION® Take Control. We Can Help.™

Treatments for Arthritis

What types of treatments do you think are available for people who have arthritis?

An effective management plan for people with arthritis starts with getting a diagnosis as early as possible. Each person's treatment plan must be individualized and will vary from person to person because:

- There are many different types of arthritis which involve different underlying disease processes.
- The degree of severity varies.
- There is a great variety in symptoms and body parts affected.
- Within an individual there may be remissions and flare-ups.

Because of these differences, it is important to discourage participants from sharing their specific drugs and treatment plans. What works for one person may actually be harmful for another.

Besides getting a diagnosis, here are some key components of a comprehensive treatment program:

Medications

Drug therapies for arthritis can limit disease progression, control symptoms and prevent serious complications. Some types used include:

- Analgesics to reduce pain such as acetaminophen and topical ointments.
- Non-steroidal anti-inflammatory drugs (NSAIDs) like ibuprofen can help alleviate symptoms of several types of arthritis
- Corticosteroids such as prednisone are often prescribed for people with lupus and RA.
- Disease-modifying anti-rheumatic drugs (DMARDs) slow down the disease process and limit joint damage in rheumatoid arthritis and some other types of inflammatory arthritis. These drugs, including methotrexate and the newer biologic agents, are available by prescription only and may take several weeks or months to work.
- Other medications are used to treat specific conditions, such as muscle relaxants and low-dose antidepressants for fibromyalgia, allopurinol for gout, antibiotics for infectious arthritis, and a variety of medications to slow down bone loss in osteoporosis.

Treatment for Arthritis *(continued)*

Additional information about medications can be found on the Arthritis Foundation's web site (www.arthritis.org) or in its Drug Guide which can be obtained from the local chapter. Participants with questions about medications should be referred to their healthcare provider.

Self- management

There are many things that people with arthritis can do on their own to help reduce their pain and improve their quality of life. These include:

- Regular **exercise** to keep moving and independent. Exercise helps lessen pain, increase mobility, reduce fatigue and prevent weight gain. The next section will discuss exercise in more detail.
- **Relaxation techniques** such as deep breathing and guided imagery can help manage stress and reduce pain and promote a general sense of well-being.
- **Joint protection techniques** are methods for using your joints wisely by doing everyday tasks in ways that reduce the stress on painful joints, such as:
    - Use proper body mechanics when sitting, standing, bending, lifting and reaching.
    - Use largest or strongest joints or muscle areas.
    - Avoid deforming positions such as keeping a painful joint in a flexed position or staying in the same position for long periods.
    - Use devices that lessen the stress on joints, such as cushioned or built-up handles.
- **Energy conservation techniques** are designed to save energy and reduce fatigue:
    - Simplify work. Plan ahead, get organized and use shortcuts.
    - Know limits and stop or slow down before getting too tired.
    - Pace oneself by balancing activity and rest.
- **Heat and cold treatments** to reduce pain
- **Weight control** by maintaining a healthy weight or losing weight if overweight, to reduce stress on joints and reduce pain.

Rehabilitation services

Rehabilitation services such as physical and occupational therapy start with an individual assessment to develop a therapeutic plan. Therapists may prescribe therapeutic exercise to address specific joint problems and pre- and post-operative issues; administer modalities (heat, TENS, etc.); teach joint protection and energy conservation strategies to reduce fatigue and stress on joints; and recommend orthotics, splints, braces, walkers and other assistive devices to make it easier to perform daily activities.

Treatment for Arthritis *(continued)*

Surgery
Surgical intervention, including joint replacement surgery, is performed most often for severe destructive arthritis of the hip or knee which is causing severe pain or activity limitations. It can significantly reduce pain and improve ability to function. You are likely to have participants who have had some type of arthritis surgery. Those with recent surgeries should be reminded to ask their surgeon or other healthcare provider about any contraindicated movements.

Complementary or alternative treatments
In addition to the more traditional physician-prescribed treatments, many people with arthritis use complementary or alternative treatments. Many of these approaches have not been rigorously tested for efficacy. Any questions regarding such remedies should be referred to the Arthritis Foundation or the participant's healthcare provider.

Contact your local Arthritis Foundation chapter or go to arthritis.org for additional information about treatment and to obtain copies of brochures on various types of treatment modalities.

Common Types of Arthritis and Treatments

Exercise #4

Now that you have read about some of the different types of arthritis and their treatment options, let's check your understanding.

Instructions
Using the list of the Four Common Conditions below, write the name of the type of arthritis or related condition in the blank. Then select the best treatment for that condition by circling either a, b, c or d. You can check your work in Appendix A.____

Four Common Conditions
1. Rheumatoid Arthritis
2. Osteoarthritis
3. Fibromyalgia
4. Osteoporosis

1. I am a 40-year-old woman with _____. My symptoms consist of overall aching, morning stiffness, fatigue and sleep disturbances. What is my treatment?

    a. Balanced exercise, joint protection, weight control and medications to reduce inflammation and to stop disease progression.
    b. Maintain activity level with exercise, weight control, relaxation, heat, sometimes medication and/or surgery.
    c. Exercise, heat, relaxation, sometimes medication for pain and/or for enhancing sleep.
    d. Medications, calcium, supplements, estrogen, exercise, fall prevention.

2. I am a 33-year-old woman and I have_____. My symptoms consist of swelling, redness, warmth, pain, tenderness, nodules, fatigue, stiffness, muscle aches and fever. What is my treatment?

    a. Balanced exercise, joint protection, weight control and medications to reduce inflammation and to stop disease progression.
    b. Maintain activity level with exercise, weight control, relaxation, heat, sometimes medication and/or surgery.
    c. Exercise, heat, relaxation, sometimes medication for pain and/or for enhancing sleep.
    d. Medications, calcium, supplements, estrogen, exercise, fall prevention.

Exercise # 4 *(continued)*

3. I have_____. I am a 70-year-old woman and last year I slipped and broke my hip. I have lower back pain, and my height has reduced by 2 inches in the last year and a half. I also have a stooped posture when I'm standing up. What is my treatment?

    a. Balanced exercise, joint protection, weight control and medications to reduce inflammation and to stop disease progression.
    b. Maintain activity level with exercise, weight control, relaxation, heat, sometimes medication and/or surgery.
    c. Exercise, heat, relaxation, sometimes medication for pain and/or for enhancing sleep.
    d. Medications, calcium, supplements, estrogen, exercise, fall prevention.

4. I am a 58-year-old woman and I have _____. My symptoms consist of localized pain, stiffness, and bony knobs on the end of the joints on my fingers. I am about 15 lbs overweight. The good news is that I don't have a lot of swelling. What is my treatment?

    a. Balanced exercise, joint protection, weight control and medications to reduce inflammation and to stop disease progression.
    b. Maintain activity level with exercise, weight control, relaxation, heat, sometimes medication and/or surgery.
    c. Exercise, heat, relaxation, sometimes medication for pain and/or for enhancing sleep.
    d. Medications, calcium, supplement, estrogen, exercise, fall prevention.

What is the common factor in all of the treatments? _____

Regular exercise is important to keep people with arthritis moving and independent. Exercise helps lessen pain, increase movement, reduce fatigue, prevent weight gain and helps you look and feel better.

There are many more types of arthritis and related diseases. It is important that you research additional types as you interact more with your participants. Or contact the Arthritis Foundation at 800-283-7800 or www.arthritis.org to learn more.

 How did you do? You can check your answers in the Self-Check section in Appendix **A**.

Three Types of Exercise for Arthritis

There are three types of exercise that should be a part of an individual's exercise program. Fortunately, the Arthritis Foundation/YMCA Aquatic Program and the Arthritis Foundation Exercise Program include all three types: Range of Motion, Strengthening and Cardiovascular exercises. Having all three in an exercise program is beneficial because this gives people with arthritis a balanced workout.

1. Range of Motion (Flexibility)
Range-of-motion exercises help maintain normal joint movement, relieve stiffness or improve flexibility and movement. Each joint in the body can be moved a certain amount in various directions by the muscles attached to it. This is defined as the joint's range of motion.

People with arthritis need to move their joints daily. Some days it may be more challenging to move because pain can vary; however, exercising on both good and bad days is recommended. One of the main advantages of the Aquatic Program is that when people with arthritis are in warm water, it is easier and less painful for them to move their joints through their range of motion. Exercising in water is one of the most effective means to maintain and improve a person's range of motion.

2. Strengthening Exercises
These exercises help maintain or increase the strength of muscles. Weak muscles add to joint problems. There are two kinds of strengthening exercises commonly used for arthritis: 1) isotonic and 2) isometric. With isotonic resistive exercises, the joint is exercised against gravity, water or other resistance. The classic isotonic exercise is lifting free weights.

In isometric or muscle-setting exercises, the person strongly contracts the muscle but does not move the joint. These exercises are a safe and effective way of increasing strength. Isometric exercises can be particularly helpful for persons with painful joints because the muscle can be strengthened with very little actual joint motion.

Three Types of Arthritis *(continued)*

3. Cardiovascular Endurance/Aerobic Exercises
Cardiovascular endurance or aerobic conditioning exercises help strengthen the heart. They make the lungs more efficient and enable a person to have more stamina to work longer without tiring as quickly. Endurance exercises also help enhance sleep, control weight, improve balance, lift spirits and improve overall health.

What are your thoughts on some of the advantages of using these exercise strategies in a pool or classroom with people with arthritis?

To learn more about exercise terminology see Appendix C for a Glossary of Exercise Terms. Read through the terms and write down below any questions you have about these terms:

Also the Arthritis Foundation has brochures and handouts on types of exercises. Contact your local chapter or go to arthritis.org for additional information.

Additional Questions

If you have additional questions about the material you learned in this guide or for an Arthritis Foundation Representative, please use this page to jot them down.

My Content Questions are…

My Questions for an Arthritis Foundation Representative are…

Conclusion

You now have a better understanding of arthritis, the anatomy and function of joints, the four most common types of arthritis and related conditions you will see in your participants, the psychosocial effects of arthritis, and treatment options. As an Arthritis Foundation/YMCA Aquatic Leader/Instructor or Arthritis Foundation Exercise Program Instructor, you will be able to aid in the understanding of what people living with arthritis experience physically and emotionally. You will be able to adhere to and follow the guidelines related to the special sensitivities of working with people who have arthritis. Your classroom training will review how you take these initial concepts and build a class around proper exercise techniques.

This concludes your Pre-Training lesson. The next step is to complete the Knowledge Check on the next page.

KNOWLEDGE CHECK

The purpose of the Knowledge Check is to evaluate your comprehension of the material contained in this pre-training workbook. The questions are a combination of multiple choice, true/false and fill-in-the-blank. You may go back to previous sections of this workbook to find your answers. You will be able to check your answers in Appendix B. You will need to turn in the Knowledge Check to your Trainer at the beginning of the classroom portion of the training session.

STUDENT NAME: _____ DATE: _____

Please remember to bring this completed Knowledge Check packet with you to the class.

Instructions and Questions
Clearly mark your answers using a black or blue ink pen. Remember to write your name on the previous page so that you receive proper credit for completing this pre-training workbook.

1. Osteoarthritis affects the same joint on both sides of the body (symmetrical).
   - ❑ TRUE
   - ❑ FALSE

2. The lining of the joint that can thicken and cause damage in and around the joint is called_____.
   - ❑ Bone
   - ❑ Tendon
   - ❑ Synovial membrane
   - ❑ Cartilage

3. Which of the following facts is NOT true of Rheumatoid Arthritis?
   - ❑ Causes redness, warmth and swelling
   - ❑ Doesn't cause a general feeling of sickness
   - ❑ Features joint stiffness especially in the morning
   - ❑ Usually begins between the ages of 25-50

4. This inflammatory condition affects many organ systems including joints, skin, kidneys, lungs, heart and brain.
   - ❑ Ankylosing Spondylitis
   - ❑ Bursitis/Tendonitis
   - ❑ Osteoporosis
   - ❑ Lupus

5. Arthritis is an unavoidable part of getting older.
   - ❑ TRUE
   - ❑ FALSE

6. Group recreational programs like the Arthritis Foundation/YMCA Aquatic Program and Arthritis Foundation Exercise Program can help participants break the chronic cycle of pain, disability, stress and depression.
   - ❑ TRUE
   - ❑ FALSE

7. Which of the following is NOT a good way to protect joints?
   - ❑ Avoid tight grasps on objects
   - ❑ Use strongest and largest muscles possible for the task
   - ❑ Rest joints in a flexed position so they hurt less
   - ❑ Use good body mechanics

8. Treatments for arthritis include:
    - ❑ Exercise
    - ❑ Medication
    - ❑ Relaxation techniques
    - ❑ All of the above

9. When doing an isotonic exercise, a person contracts a muscle but does not move the joint.
    - ❑ TRUE
    - ❑ FALSE

10. The treatment and exercise programs for people with arthritis will vary from person to person because the disease activity may fluctuate with flare-ups and remissions.
    - ❑ TRUE
    - ❑ FALSE

11. Energy conservation techniques may include:
    - ❑ Pacing yourself by balancing activities and rest
    - ❑ Planning ahead to avoid overloading your schedule
    - ❑ Stopping to rest
    - ❑ All of the above

12. On a daily basis people with arthritis should try to move each joint through its range of motion to maintain flexibility, preserve joint function and minimize stiffness.
    - ❑ TRUE
    - ❑ FALSE

13. The benefits of range-of-motion exercises include:
    - ❑ Maintenance of normal movement
    - ❑ Stiffness relief
    - ❑ Increased flexibility
    - ❑ All of the above

14. If a joint is inflamed:
    - ❑ It should not be exercised
    - ❑ The usual exercise program should be followed
    - ❑ Gentle range-of-motion exercises should be done with that joint
    - ❑ More exercise should be done to work out the stiffness and swelling

15. People with arthritis should avoid doing cardiovascular endurance exercises.
    - ❑ TRUE
    - ❑ FALSE

END OF KNOWLEDGE CHECK – You can check your answers in Appendix B

Appendix A

The correct answers are highlighted in bold.

Exercise #4 - Answers

Identify one of the four arthritis types by recognizing the symptoms. Write the name of the type of arthritis in the blank. Then select the best treatment for that type of arthritis.

1. I have **FIBROMYALGIA**. My symptoms consist of overall aching, morning stiffness, fatigue and sleep disturbances. What is my treatment?
    a. Balanced exercise, joint protection, weight control and medications to reduce inflammation and to stop disease progression.
    b. Maintain activity level with exercise, weight control, relaxation, heat, sometimes medication and/or surgery.
    c. Exercise, heat, relaxation, sometimes medication for pain and/or for enhancing sleep.
    d. Medications, calcium, supplements, estrogen, exercise, fall prevention.

2. I am a 33-year-old woman and I have **RHEUMATOID ARTHRITIS**. My symptoms consist of swelling redness, warmth, pain, tenderness, nodules, fatigue, stiffness, muscle aches and fever. What is my treatment?
    a. Balanced exercise, joint protection, weight control and medications to reduce inflammation and to stop disease progression.
    b. Maintain activity level with exercise, weight control, relaxation, heat, sometimes medication and/or surgery.
    c. Exercise, heat, relaxation, sometimes medication for pain and/or for enhancing sleep.
    d. Medications, calcium, supplements, estrogen, exercise, fall prevention.

3. I have **OSTEOPOROSIS**. I am a 70-year-old woman and last year I slipped and broke my hip. I have lower back pain, and my height has reduced by 2 inches in the last year and a half. I have a stooped posture when I'm standing up. What is my treatment?
    a. Balanced exercise, joint protection, weight control and medications to reduce inflammation and to stop disease progression.
    b. Maintain activity level with exercise, weight control, relaxation, heat, sometimes medication and/or surgery.
    c. Exercise, heat, relaxation, sometimes medication for pain and/or for enhancing sleep.
    d. **Medications, calcium, supplements, estrogen, exercise, fall prevention**.

4. I am a 58-year-old woman and I have **OSTEOARTHRITIS**. My symptoms consist of localized pain, stiffness, and bony knobs on the end of the joints on my fingers. I am 15 pounds overweight. The good news is that I do not have a lot of swelling. What is my treatment?
    a. Balanced exercise, joint protection, weight control and medications to reduce inflammation and to stop disease progression.
    b. Maintain activity level with exercise, weight control, relaxation, heat, sometimes medication and/or surgery.
    c. Exercise, heat, relaxation, sometimes medication for pain and/or for enhancing sleep.
    d. Medications, calcium, supplements, estrogen, exercise, fall prevention.

What is the common factor in all of the treatments? **EXERCISE**

Appendix B

Knowledge Check Answers

1. Osteoarthritis affects the same joint on both sides of the body (symmetrical).
   - ❑ TRUE
   - ☑ FALSE

2. The lining of the joint that can thicken and cause damage in and around the joint is called_____.
   - ❑ Bone
   - ❑ Tendon
   - ☑ Synovial membrane
   - ❑ Cartilage

3. Which of the following facts is NOT true of Rheumatoid Arthritis?
   - ❑ Causes redness, warmth and swelling
   - ☑ Doesn't cause a general feeling of sickness
   - ❑ Joint stiffness especially in the morning
   - ❑ Usually begins between the ages of 25-50

4. This inflammatory condition affects many organ systems including joints, skin, kidneys, lungs, heart and brain.
   - ❑ Ankylosing Spondylitis
   - ❑ Bursitis/Tendonitis
   - ❑ Osteoporosis
   - ☑ Lupus

5. Arthritis is an unavoidable part of getting older.
   - ❑ TRUE
   - ☑ FALSE

6. Group recreational programs like the Arthritis Foundation/YMCA Aquatic Program and Arthritis Foundation Exercise Program can help participants break the chronic break the chronic cycle of pain, disability, stress and depression.
   - ☑ TRUE
   - ❑ FALSE

7. Which of the following is NOT a good way to protect joints?
   - ❑ Avoid tight grasps on objects
   - ❑ Use strongest and largest muscles possible for the task
   - ☑ Rest joints in a flexed position so they hurt less
   - ❑ Use good body mechanics

8. Treatments for arthritis include:
    - ❑ Exercise
    - ❑ Medication
    - ❑ Relaxation techniques
    - ☑ All of the above

9. When doing an isotonic exercise, a person contracts a muscle but does not move the joint.
    - ❑ TRUE
    - ☑ FALSE

10. The treatment and exercise programs for people with arthritis will vary from person to person because the disease activity may fluctuate with flare-ups and remissions.
    - ☑ TRUE
    - ❑ FALSE

11. Energy conservation techniques may include:
    - ❑ Pacing yourself by balancing activities and rest
    - ❑ Planning ahead to avoid overloading your schedule
    - ❑ Stopping to rest
    - ☑ All of the above

12. On a daily basis people with arthritis should try to move each joint through its range of motion to maintain flexibility, preserve joint function, and minimize stiffness.
    - ☑ TRUE
    - ❑ FALSE

13. The benefits of range-of-motion exercises include:
    - ❑ Maintenance of normal movement
    - ❑ Stiffness relief
    - ❑ Increased flexibility
    - ☑ All of the above

14. If a joint is inflamed:
    - ❑ It should not be exercised
    - ❑ The usual exercise program should be followed
    - ☑ Gentle range-of-motion exercises should be done with that joint
    - ❑ More exercise should be done to work out the stiffness and swelling

15. People with arthritis should avoid doing cardiovascular endurance exercise.
    - ❑ TRUE
    - ☑ FALSE

Appendix C

Glossary of Exercise Terms

Abduction – movement away from the middle of the body (i.e., raising arms or legs to side horizontally).

Adduction – movement toward the middle of the body (i.e., lowering arms or legs to side, back to body).

Circumduction – a circular movement of a limb that is a combination of flexion, extension, abduction and adduction (e.g., placing the arm out in front and drawing a circle in the air).

Dorsiflexion – bending movement of the ankle that results in the top of the foot moving toward the lower leg.

Dynamic – in motion.

Eversion – turning the sole of the foot outward (e.g., standing with weight on the inner edge of the foot).

Extension – increasing the angle at a joint or returning to anatomical position (e.g., the movement that occurs when straightening the elbow joint and moving the hand away from the shoulder).

External rotation – turning outward away from the body as in moving your arm outward from the shoulder.

Flexion – decreasing the angle at a joint or moving out of anatomical position (e.g. the movement that occurs when bending the arm at the elbow joint to bring the hand to the shoulder).

Internal rotation – turning inward toward the body.

Inversion – turning the sole of foot inward (i.e., standing with weight on the outer edge of the foot).

Lateral flexion – Movement of the head and/or trunk away from midline.

Plantar flexion – a straightening movement at the ankle to point the toes down away from the body.

Retraction – the backward movement of the shoulder girdle toward the spine.

Static – stationary; not moving. Static stretches are held or sustained.

YMCA

ARTHRITIS FOUNDATION®
Take Control. We Can Help.™