Arthritis

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At a Glance
Arthritis is a chronic disease that affects over 1.5 million adult Tennesseans and is the leading cause of disability in the nation. Through proper disease awareness, education and management, individuals at risk or diagnosed with arthritis can have a better quality of life.

Time Required
1 hour

Core Messages
Arthritis is a complex illness that affects the bones, joints and organs of the body.
Arthritis is not just an older person’s disease.
Arthritis can be managed with healthy weight, exercise, meditation, support groups, and a good attitude!

Objectives
As the result of participating in this learning session, learners will have the ability to:
Define arthritis
Identify the most common forms of arthritis
Locate areas of the body most often affected by arthritis
State risk factors for osteoarthritis
List methods of arthritis management

Outcomes:
List of outcomes available in SUPER that apply to lesson
✓ ___ of ___ participants understand that arthritis is a chronic disease that they can control with self-management techniques.
✓ ___ of ___ participants understand the different types of self-management techniques they can use to self-manage their arthritis symptoms on a day-to-day basis.
✓ ___ of ___ participants understand the importance of being physically active as a self-management technique for controlling arthritis symptoms.
✓ ___ of ___ participants have improved their arthritis symptoms as a result of participating in this program.

Materials Needed:
The following publications can be found on the Arthritis and Be MedWise FCS agent resource pages.
Publication: SP526-0 “Take Charge of Your Joints”
“Ways to Live with Arthritis” handout
Publication: SP667 Arthritis Foundation Exercise Program “Take Control of Your Arthritis with Exercise”
Getting Ready

- Review lesson and PowerPoint presentation “Overview of Arthritis”
- Review publications, handouts and quiz that accompany the presentation
- Review the “Did You Know or For Your Information” attachment
- Publication SP526-0 “Take Charge of Your Joints”
- “Ways to Live with Arthritis” handout
- Publication SP667 Arthritis Foundation Exercise Program “Take Control of Your Arthritis with Exercise”
- http://fcs.tennessee.edu/healthsafety/arthritis/quiz.htm
- Chronic Disease Pain Model
- Publication SP632 “Be Smart About Your Meds”
- Monitoring Your Progress-Arthritis Self-Help Program Goal Sheet
- Monitoring Your Progress-Arthritis Foundation Exercise Program Goal Sheet
- Practice lesson activities that accompany presentation
- Checkout laptop, projector and screen
- Make copies of presentation handouts and quiz
What Is Arthritis?
Arthritis comprises more than 100 different rheumatic diseases and conditions, the most common of which is osteoarthritis. Other frequently occurring forms of arthritis include rheumatoid arthritis, lupus, fibromyalgia, and gout. Common symptoms include pain, aching, stiffness, and swelling in or around the joints. Some forms of arthritis, such as rheumatoid arthritis and lupus, can affect multiple organs and cause widespread symptoms.

Although arthritis is more common among adults aged 65 years or older, people of all ages (including children) can be affected. Nearly two-thirds of people with arthritis are younger than age 65. Arthritis is more common among women (24.4%) than men (18.1%) in every age group, and it affects members of all racial and ethnic groups.

Why Is Arthritis a Public Health Problem?

High prevalence. An estimated 46 million U.S. adults (about 1 in 5) report doctor-diagnosed arthritis, according to annual estimates. As the U.S. population ages, these numbers are expected to increase sharply. The number of adults with doctor-diagnosed arthritis is projected to increase to 67 million by 2030, and more than one-third of these adults will have limited activity as a result. In addition, a recent study indicated that some form of arthritis affects 1 in every 250 children.

Common disability. Arthritis is the nation’s most common cause of disability. Nearly 19 million U.S. adults report activity limitations because of arthritis each year. Among all U.S. adults of working age (18–64 years), about 1 in 20 report that they have arthritis that limits their work. Among the 23 million adults with arthritis in this age group, arthritis-attributable work limitations affect about 1 in 3 people.

High lifetime risk. A recent community study estimated that the lifetime risk of developing knee osteoarthritis serious enough to cause painful symptoms is 45%. Risk increases to 57% among people with a past knee injury. Lifetime risk for knee osteoarthritis also goes up with increased weight, and 3 in 5 people who are obese are at risk.

High costs. In 2003, the total cost of arthritis was $128 billion, including $81 billion in direct costs (medical) and $47 billion in indirect costs (lost earnings). This total is equal to 1.2% of the 2003 U.S. gross domestic product. Each year, arthritis results in 992,100 hospitalizations and 44 million outpatient visits.

Risky complications. Arthritis makes it more difficult for people to be physically active, and not being physically active is a risk factor for many chronic diseases. More than half of adults with diabetes or heart disease also have arthritis. Research shows that pain, fear of pain, fear of worsening symptoms or damaging joints, and lack of information on how to exercise safely prevent people with arthritis from being physically active. To effectively manage chronic conditions such as diabetes, heart disease, and obesity, people with arthritis need help finding ways to overcome arthritis-specific barriers to physical activity.
What Can Be Done to Address Arthritis?

Learn techniques to manage arthritis. Self-management education programs such as the Arthritis Foundation’s Self-Help Program can teach people how to manage arthritis and lessen its effects. This 6-week course reduces arthritis pain by 20% and physician visits by 40% for participants. Unfortunately, this program is not available in all areas of the country. More widespread use of this program and similar courses, such as the Chronic Disease Self-Management Program, which addresses arthritis along with other chronic diseases, could save money and improve quality of life for people with arthritis.

Be physically active. For people with arthritis, physical activities such as walking, bicycling, and swimming have been shown to have significant benefits, including reducing pain and improving physical function, mental health, and quality of life. The Arthritis Foundation Exercise Program, the Arthritis Foundation Aquatics Program, and EnhanceFitness are three examples of community exercise programs that have been shown to improve health among participants.

Control your weight. Weight control and injury prevention measures can lower a person’s risk of developing osteoarthritis. Weight loss also can reduce symptoms for people with knee osteoarthritis.

Consult a physician. Early diagnosis and appropriate management are especially important for people with inflammatory arthritis. Recommendations from health care providers are the most influential factor in convincing people to take an arthritis self-management course.

What is it?

Osteoarthritis (OS-tee-oh-are-THRY-tis) (OA) is one of the oldest and most common forms of arthritis. Known as the “wear-and-tear” kind of arthritis, OA is a chronic condition characterized by the breakdown of the joint’s cartilage. Cartilage is the part of the joint that cushions the ends of the bones and allows easy movement of joints. The breakdown of cartilage causes the bones to rub against each other, causing stiffness, pain and loss of movement in the joint.

Osteoarthritis is known by many different names, including degenerative joint disease, osteoarthrosis, hypertrophic arthritis and degenerative arthritis. Your doctor might choose to use one of these terms to better describe what is happening in your body, but for our purposes, we will refer to all of these as osteoarthritis.

It is thought that osteoarthritis dates back to ancient humans. Evidence of osteoarthritis has been found in ice-aged skeletons. Today, an estimated 27 million Americans live with OA. Despite the longevity and frequency of the disease, the cause is still not completely known and there is no cure. In fact, many different factors may play a role in whether or not you get OA, including age, obesity, injury or overuse and genetics. Your OA could be caused by any one or by a combination of any of these factors.
There are several stages of osteoarthritis:

- Cartilage loses elasticity and is more easily damaged by injury or use.
- Wear of cartilage causes changes to underlying bone. The bone thickens and cysts may occur under the cartilage. Bony growths, called spurs or osteophytes, develop near the end of the bone at the affected joint.
- Bits of bone or cartilage float loosely in the joint space.
- The joint lining, or the synovium, becomes inflamed due to cartilage breakdown causing cytokines (inflammation proteins) and enzymes that damage cartilage further.

Changes in the cartilage and bones of the joint can lead to pain, stiffness and use limitations. Deterioration of cartilage can:

- Affect the shape and makeup of the joint so it doesn't function smoothly. This can mean that you limp when you walk or have trouble going up and down stairs.
- Cause fragments of bone and cartilage to float in joint fluid causing irritation and pain.
- Cause bony spurs, called osteophytes, to develop near the ends of bones
- Mean the joint fluid doesn't have enough hyaluronan, which affects the joint's ability to absorb shock.

What causes it?
While there isn’t any single known cause of osteoarthritis (OA), there are several risk factors that should be considered. Knowing and controlling these risk factors can help you minimize your risk or even help you prevent getting OA altogether. Keep in mind that having risk factors for OA doesn’t mean you will definitely get it. No single risk factor is enough to cause OA; it is more likely that a combination of risk factors works together to cause the disease.

There are two distinct types of osteoarthritis – primary and secondary. Primary osteoarthritis is the type associated with aging and is thought of as “wear and tear” osteoarthritis. The older you are, the more likely it is that you will have some degree of primary arthritis. In fact, if we live long enough, most of us will experience primary osteoarthritis, even if it is just a touch. There is no apparent cause for this type of osteoarthritis.

In contrast, when someone is diagnosed with secondary osteoarthritis, it is because there is an apparent cause for the disease. In other words, the breakdown of cartilage can be associated to injury, heredity, obesity or something else.

Listed below are the risk factors for osteoarthritis.

- **Age.** Incidences of OA increase as you age. Since “wear and tear” does play a part in the development of OA, the older you are, the more you have used your joints. Although age is an important risk factor, it doesn’t mean that OA is inevitable.
**Obesity.** Obesity is a nationwide epidemic and you hear about the danger from it every day on the news. Increased body weight is a serious factor in the development of OA, particularly in your knees, which carry the brunt of your weight day in and day out. For every pound you gain, you add 3 pounds of pressure on your knees and six times the pressure on your hips. Since weight gain gradually increases the stress on joints, the weight you gain the decade before you have OA symptoms, particularly in middle age, plays a big role in determining if you will have OA.

**Injury or Overuse.** Athletes and people who have jobs that require doing repetitive motion, such as landscaping, typing or machine operating, have a higher risk of developing OA due to injury and increase stress on certain joints. OA also develops in later years in joints where bones have been fractured or surgery has occurred. It is important for athletes to learn to take precautions to avoid injury and for people in repetitive jobs to modify their movements to lessen this stress. Note: Avoiding repetitive movement shouldn’t be interpreted as not exercising. Regular moderate exercise strengthens the joint causing it to be more stable, thereby, reducing the risk of OA in that joint.

**Genetics or Heredity.** It is becoming more and more clear that genetics plays a role in the development of OA, particularly in the hands. This shows itself in many ways. Inherited abnormalities of the bones that affect the shape or stability of the joints can lead to OA. It is also more common in joints that don’t fit together smoothly. For example, a bowlegged person is more likely to develop OA. Increased laxity or being double jointed also increases the risk of OA. Recently, researchers have been looking at a defect in the gene responsible for manufacturing cartilage as a risk factor. Just because you have one of these inherited traits, doesn’t mean that you are going to develop OA. It just means that your doctor should check you more closely and more frequently for signs and symptoms of the disease.

**Muscle Weakness.** Studies of the knee muscles not only show that weakness of the muscles surrounding the knee can lead to OA, but that strengthening exercises for thigh muscles are important in reducing the risk.

**Other Diseases and Types of Arthritis.** People with rheumatoid arthritis tend to have a greater chance of developing OA. Also, hemochromotosis, or having too much iron, can damage cartilage to the point of chronic deterioration. Acromegaly, or excess growth hormone, also has adverse affects on the bones and joints and can lead to OA.

**What are the effects?**

While many people think of OA as the inevitable result of aging and wear on the joints, this isn’t true. The knees, hips, fingers, neck and lower back are most commonly affected by OA, while the knuckles, wrists elbows, shoulders and ankles are rarely affected except in usually cases of overuse or injury.

Most often, OA develops gradually. It may start as soreness or stiffness that seems more a nuisance than a medical concern. Pain may be moderate, intermittent and not interfere with your day-to-day existence. Some people’s OA will never progress past this early stage. Others will have their OA progress to a point where it interferes with daily activities and pain and stiffness make it difficult to walk, climb stairs or sleep. Rarely, a person with OA will experience sudden signs of inflammation such as redness, pain and swelling, known as inflammatory or erosive osteoarthritis.
The most common signs and symptoms of osteoarthritis are:

- Joint soreness after periods of overuse or inactivity.
- Stiffness after periods of rest that goes away quickly when activity resumes.
- Morning stiffness, which usually lasts no more than 30 minutes.
- Pain caused by the weakening of muscles surrounding the joint due to inactivity.
- Joint pain is usually less in the morning and worse in the evening after a day’s activity.
- Deterioration of coordination, posture and walking due to pain and stiffness.

If OA is in the hips, you may experience:

- Pain in groin, inner thigh and buttock
- Referred pain in knee and side of thigh
- Limping when walking

If OA is in the knees, you may experience:

- Pain when moving the knee
- Grating or catching when moving the knee
- Pain when walking up and down stairs or getting up from a chair
- Pain that prevents you from exercising your leg
- Weakened large thigh muscles

If OA is in the fingers, you may experience:

- Pain and swelling of the finger joints
- Bony growth spurs at the joint at the end of the finger, called Heberden’s nodes, or at the middle joint, called Bouchard’s nodes.
- Redness, tenderness and swelling in the affected joints, especially early on when the nodes are forming
- Enlarged joints
- Difficulty with pinching movements, such as picking an item up from a table or grasping a pencil or pen.

If OA is in the feet, you may experience:

- Pain and tenderness in the large joint at the base of the big toe
- Pain when wearing tight shoes or high heels

If OA is in the spine, you may experience:

- A breakdown of the spinal discs resulting in bony overgrowth
- Stiffness and pain in the neck and lower back
- Pressure on the nerves in the spinal cord (pinched nerves)
- Pain in the neck, shoulder, arm, lower back and legs
- Weakness or numbness in arms and legs due to pinched nerves result in inflammation.
**Osteoarthritis** most commonly occurs in the weight-bearing joints of the hips, knees and lower back. It also affects the neck, small finger joints, the base of the thumb and the big toe. OA rarely affects other joints except when injury or stress is involved. It is important that you take an active role in the treatment of OA and in prevention of additional joint damage. There are seven steps an individual can take to lower their risk for developing OA at all. The most important thing an individual can do if they suspect they have any form of arthritis is to get a proper diagnosis and begin early, aggressive treatment. There are several other conditions that are similar to OA, including rheumatoid arthritis, that have different treatment plans. It is important to receive the right treatment for the right form arthritis. Disease treatment may change as the condition progresses or improves.

**How is it diagnosed?**

Early diagnosis and treatment is the key to controlling osteoarthritis. A doctor will take a medical history and perform a physical exam to assess disease activity. He or she may use X-rays to confirm or strengthen a diagnosis, although most people over 60 reflect OA on X-ray while only 1/3 have actual symptoms. If diagnosed with osteoarthritis, an individual may be treated by many different health professionals, but more than likely, it will be a primary care physician who diagnoses the disease. Depending on the severity of the disease and how it reacts to initial treatment, an individual may be referred to an arthritis specialist called a rheumatologist. Other health professionals an individual may encounter along the way may include orthopedic surgeons, physical therapists and occupational therapists.

A doctor will use four main tools to determine the diagnosis: medical history, a physical exam, X-rays, and joint aspiration. The medical history and physical exam will be what he or she bases the diagnosis on, using tests such as X-rays and joint aspirations to confirm the diagnosis.

**TEACHING THE LESSON**

**Welcome**

Puts learners at ease and gives them a chance to talk about a positive change they have made since the last session.

**Introduction**

- My name is ____________ and I am a University of Tennessee Extension Educator here to talk to you today about Arthritis.

Give the audience some information about yourself and your relation to the disease. Example: Share your understanding of the disease whether it is education or knowing someone who has the disease. Develop a connection between you and the audience.
Anchor
Does anyone experience or have experienced pain and stiffness in your body? Have you ever experienced heat pain in swelling in your hands or knees? If so, you may have arthritis. Arthritis does not discriminate. Individuals of all ages, race and social economic status are affected by arthritis.

- Define Arthritis (Slide#2)
- Provide background information about arthritis (Slides #3-7)
  - Impact of Arthritis
  - Burden of Arthritis in the United States
  - Burden of Arthritis in Tennessee
  - Symptoms of Arthritis (Slide#8)

Activity
Have your participants study slide # 8 for one minute. If the participants have one or more of the listed symptoms they could have arthritis. Encourage participants who have one or more symptoms of arthritis to contact their primary care physician and discuss their concerns.

Add
- Healthy Joint Anatomy (Slide #9)
- Joint with Osteoarthritis (Slide #10)
- Joints Most Affected (Slide #11)
- Types of Arthritis (Slide #12)
- Osteoarthritis (Slide #13 and 14)
- Osteoarthritis Risk Factors (Slide #15)
- Rheumatoid Arthritis (Slide #16)
- Fibromyalgia Syndrome (Slide #17 and 18)
- Lupus (Slide #19)
- Juvenile Rheumatoid Arthritis (Slide #20)
- Chronic Pain Cycle (Slide #21)
- Arthritis Foundation Management Programs (Slide #25)
- Arthritis Self-Help Program (Slides #26, 27, 28, and 29)
- Arthritis Foundation Exercise Program (Slides #30 and 31)
- Arthritis Foundation Tai Chi Program (Slides #32 and 33)
- Monitoring Your Progress-Exercise (Slide #34)
- Rating of Perceived Pain Scale (Slide #35)
- Monitoring Your Progress-Self-Help (Slide #36)
- Questions (Slide #37)
Apply

**Activity One—Achieving a Healthy Weight**

**Educator**

Maintaining a healthy weight is very important in managing arthritic pain. The less stress (weight) you put on your joints the less pain you will experience. The key to achieving a healthy weight is to move more and to eat less! According to United States Department of Agriculture, individuals should eat 5-9 servings of fruits and vegetables each day. The American College of Sports Medicine recommends that older adults (age 65 and older) should exercise mixing moderate- and vigorous intensity aerobic activity and engage in muscle-strengthening activities on 2 or more days a week that work all major muscle groups (legs, hips, back, abdomen, chest, shoulders, and arms).

**Educator and Audience**

List some appropriate aerobic, muscle strengthening and flexibility exercises for individuals with arthritis.

- **Aerobic Exercise Examples**: walking, swimming, water aerobics, bicycling, dancing, and gardening.
- **Muscle Strengthening Exercise Examples**: lifting light weights, leg lifts, ups and downs (using chair) and abdominal crunches (chair).
- **Flexibility Exercise Examples**: Shoulder circles, ankle circles, hamstring stretches, wrist stretch, and shoulder stretch.

**Educator**

Introduce and explain the Borg Rate of Perceived Pain Scale. The Borg Rate of Perceived Pain Scale (Slide #35) is a tool used during exercise to self-gage feeling of pain and exercise intensity. For arthritic individuals, it is very important to know when to increase intensity and decrease intensity during exercise. On the Borg Scale (0-11), an arthritic exerciser needs to be in the range of 3 to 5. Another key rule of exercising is to use the Talk Test. You should be able to talk during exercise, but not sing. If you can sing, you are not working at high enough intensity.

**Educator**

Turn on music and invite participants to march in place. Demonstrate how to use the Borg Rate Perceived Pain Scale. Ask participants to march in place at a slow pace for 1-2 minutes. While marching, ask participants to rate themselves on the Borg Scale. Continue marching, but at a moderate pace. Again, ask participants to rate themselves on the Borg Scale, keeping in mind of needing to reach the 3-5 (Moderate) range of exertion. At this time, ask the participants to march at high intensity for 30 seconds. Again, ask participants to rate themselves on the Borg Scale. Reiterate to the audience that exercising at a high rate of pain is dangerous and should not be done for long periods of time.
This demonstration is designed to let them know how much exercise is too much and how much exercise is enough. Cool down participants and ask them to have a seat (slow down intensity for at least 2 minutes by asking the audience to slowly walk around the room).

**Educator**

Display and distribute copies of slide #34 “Monitoring Your Progress”. Ask participants to set a goal for each appropriate column and to keep track of their progress from week to week. Completing this log will help participants form good habits that will enable them to have a Healthy Weight.

**Activity Two-Be Smart About Meds**

**Educator**

Medications are important to your management of pain. If used wisely, medications can reduce pain and doctor’s visits, and increase your joint mobility and range of motion. Remind the audience that medication is major catalyst in breaking the Pain Cycle. When used properly, medications can reduce pain which in turn reduces tension and stress. When stress and tension in the body is decreased, the chance of developing frustration, depression and fatigue is also lessened. Flash slide #36 on the screen.

**Educator and Audience**

Ask the audience what are some common mishaps they experience when taking medication. Write their responses down on a flip chart or dry-erase board. Responses could look like:

- Taking wrong dosage of medication
- Stop taking medication too soon because they feel better
- Stop taking medication because they feel that it is not working
- Take medication at the wrong time of day

**Educator**

Pass out publication SP632 “Be Smart about Your Meds” and flash slide #36 “Monitoring Your Progress”.

**Educator**

Display and distribute copies of slide #36 “Monitoring Your Progress”. Ask participants to set a goal for each appropriate column and to keep track of their progress from week to week. Completing this log will help participants form good habits that will enable them to have a better quality of life.
**Educator**

“Be Smart about Your Meds” is a tool to help you manage the medications you are taking. The Med Minder card will remind you when and how to take your medications. Get started by writing down all of the medications you take including both prescription and over-the-counter drugs. Don’t forget to include any herbals and vitamin/mineral supplements you take. Write down the name, strength, directions and purpose for each medication you take. Share the card with your healthcare provider and pharmacist. It will help your pharmacist and health care provider determine if the combination of your medications is causing any drug reactions and help them when filling or prescribing new medications. There is also a space on the card to list any allergies or drug intolerances, pharmacy address, emergency contact information, physician contact information and personal contact information.

**Review**
A brief review of the core messages
- Review publication SP526-0 “Take Charge of Your Joints”
- Review “Ways to Live with Arthritis” handout

**Away**
Helps learners think about what they have learned and then decide how they can use the information and skills in the future (e.g. write down a change they will make, write the date and time of the next meeting, an activity they can do at home)
- Request that participants take the Arthritis Quiz: Do You Know the Basics? http://fcs.tennessee.edu/healthsafety/arthritis/quiz.htm
- Review publication SP667 Arthritis Foundation Exercise Program “Take Control of Your Arthritis with Exercise” brochure.
- Entertain participant questions
- Closing- Encourage participants to listen to their body, to remain as active as possible, and to contact their physician with any questions or concerns they have about arthritis. Also, remind the participants that they can contact their local chapter of the Arthritis Foundation or local UT Extension office for information on programs and services available in the area.

**Additional Activities**
Additional activities to use if time allows
- If Tai Chi certified, conduct a Tai Chi demonstration with participants. (Example: Warm–up, cool-down, or basic principles of Tai Chi)
- If Arthritis Foundation Exercise certified, conduct a brief exercise demonstration with participants. (Example: Warm-up, cool-down, chair exercises, balance exercises, core exercises, and stretching)
- If Arthritis Self-Help certified, give a brief synopsis of the program first session. Include program information such as goal setting, developing an action plan, and developing self-management skills.