The Role of EXERCISE

- Ankylosing Spondylitis
- Enteropathic Arthritis
- Psoriatic Arthritis
- Reactive Arthritis
- Undifferentiated Spondyloarthritis
- Juvenile Spondyloarthritis
What is Spondyloarthritis?

Spondyloarthritis is a long word made up from three Greek words. Hence, spondylo means about the spine, arthro about the joint and itis means inflammation. Putting this all together, we have Spondyloarthritis, which means inflammation of the joints and structures around the spine.

The signs of inflammation are redness, warmth, swelling, pain and loss of function. If you have inflammation in your eye, the eye can look red, be watery, painful and make it difficult to see. In the case of a joint, such as the knee, it might be red, warm, swollen, painful and difficult to move and stand on. The joints of the spine are smaller, deeper and covered by muscles, so you may not always feel warmth nor see redness; but, you may feel the pain and may notice less mobility in the area. Thus, though difficult to pronounce, the word spondyloarthritis does describe the problem quite well.

Overview

The diseases included in the family of spondyloarthritis are:

- **Axial spondyloarthritis** - which can include ankylosing spondylitis, psoriatic spondylitis, reactive arthritis, and enteropathic spondylitis.

- **Peripheral spondyloarthritis** - which can include psoriatic arthritis, enteropathic arthritis, reactive arthritis, juvenile spondyloarthritis, and most cases of undifferentiated spondyloarthritis.

Each of these diseases is different, but they have the common feature of potentially causing back pain and stiffness. This back pain is caused by inflammation, and is different from back pain caused by injury or aging. It is also different from the type of back pain caused by infection or tumors.
Inflammation in spondyloarthritis occurs in the entheses, not in the joints. An enthesis is the place where a tendon, ligament or joint capsule attaches to the bone.

Inflammation in the spine initially causes pain, which can occur in the low back, mid-back or neck. Inflammation of the spine can also cause stiffness, which is usually worse in the morning. In addition to pain and stiffness in the spine, other joints can be affected. In spondyloarthritides, the hips, knees and shoulders are often involved. These joints can also be involved in psoriatic arthritis, along with the fingers and toes. While each specific form of spondyloarthritis may behave differently, untreated inflammation in any type of these diseases can lead to stiffness and permanent joint damage, such as fusion. If this occurs, bone around the area may become weaker, making the person more prone to injury.

Because of this disease process, treatment includes two major components:

a) Medication to control inflammation and thus pain and injury to the entheses and joints; and

b) Exercise and physical activity to maximize a person’s mobility, strength and function and minimize risk of injury to the entheses and joints.

In no other type of arthritis is the combination of medication and exercise as important. Medication alone will not maintain nor increase mobility, strength, and function. And it is often difficult to exercise or participate in physical activity if pain persists due to active inflammation. A good treatment plan must include both medication and exercise/physical activity.

Other brochures in this series describe the diseases themselves, as well as medication and other treatment options in greater detail. This brochure focuses on the role of exercise and physical activity in the management of this group of diseases.

What is the Difference between Exercise and Physical Activity?

Physical activity refers to movement produced by muscles that results in energy expenditure. Exercise refers to physical activity that is planned, structured, repetitive and directed toward improving health. In this brochure, we will be focusing mostly on exercise, but keep in mind that physical activity has been shown to provide similar benefits as exercise, and also plays a critical role in the management of spondyloarthritis.

General Benefits of Exercise

Exercise has been shown to optimize physical and mental health in everybody. In addition to directly increasing strength, endurance, balance, and flexibility, some of the other physical benefits of exercise include improving cardiovascular endurance, reducing high blood pressure, increasing good cholesterol (HDL), maximizing bone density, helping weight management and possibly even enhancing response to medications. The mental health benefits of exercise include reducing stress, improving self-esteem, and improving productivity.
Specific Benefits of Exercise in Spondyloarthritis

In addition to the general benefits of exercise noted above, individuals with spondyloarthritis can benefit from exercise in other ways. Regular exercise can help improve posture, stiffness, pain, fatigue, breathing capacity, and therefore overall function. Through these physical effects, people with spondyloarthritis also report that exercise increases their quality of life and decreases the burden they associate with their disease.

Getting Ready to Exercise

It is important that you are instructed in an overall disease self-management program. Your physician and physical therapist will teach you components of such a program. Most of the time you will be doing your exercises at home or at a fitness center. Periodic visits with your physician and/or physical therapist will ensure that your program is ideal.

Once you and your healthcare team have set an exercise plan, there are a few things to keep in mind before starting your exercise program:

1) Take your medications as prescribed by your physician;
2) Find a place to exercise where you will be comfortable – whether at home or a gym, on the floor or on the bed, choose a space that you feel good about and where you won’t be distracted;
3) Work with your healthcare team to choose a program that you enjoy and can continue – remember that consistency is the key to reaping the benefits of exercise;
4) Allow time to “warm up” prior to beginning your exercise sessions – this reduces the chances of injury and improves comfort and performance during exercise, and can include walking, gentle stretching, and/or using heat (i.e., warm shower or bath, or heating pad on “medium” for 10-15 minutes).

Recommendations for Different Types of Exercises

There are 4 main types of exercise:
- Range of Motion or Stretching
- Aerobic or Cardiovascular
- Strengthening
- Balance

An ideal exercise program will incorporate each of the types of exercise noted above. However, most of us have limited time to exercise, so please ask your physician and physical therapist to help you decide which of these types of exercises are most important for you.

In addition, experts recommend that people with spondyloarthritis work toward exercising as often and as long as people who are not living with spondyloarthritis. However, you should discuss your exact needs with your health care team regarding the best frequency, intensity, and duration of exercise to suit your needs.
Strengthening exercises use your muscles to move or hold against a weight or resistance. Strengthening exercises improve the performance of muscles that help you move efficiently and safely and support good posture. Some of the most important muscles to strengthen in spondyloarthritis are the “core muscles,” which are the abdominal and back muscles that act like a “corset” to support the spine. Having strong core muscles has been shown to reduce stress in the spine and therefore can minimize back pain. It is common for a person who has back pain from spondyloarthritis to change their posture to ease the pain. Over time, these postural changes may lead to stiffness and weakness of the muscles and joints, and more pain. As such, “core strengthening” is key to managing back pain in spondyloarthritis. Strengthening exercises should be performed 2 to 4 times per week for best results.

Balance exercises focus on improving your stability when you are still and moving. These exercises are especially important for people who are less active and as we age. Balance exercises can help reduce the chances of falling, which is especially important for people with lower bone density, and thus at greater risk for fracture during a fall. Balance exercises should be performed 3 to 5 times per week for best results.
Sports

There are many sport activities that individuals with spondyloarthritis can enjoy. Your physician and physical therapist can help you choose a sport that is appropriate for you based on your level of fitness and physical condition. In general, if a sport activity causes significant and lasting pain, then you can lessen the intensity of the activity, change how you do it, or switch to another sport to stay active.

When selecting a sport, it is important to consider the impact and physical stresses that you will encounter. Impact refers to something striking your body, such as the ground when running or jumping or other players in a contact sport like American football. Physical stresses that can occur during sports often result from bending, twisting, lifting, pushing and pulling movements. Having spondyloarthritis does not mean you must avoid all impact and physical stress, but it does mean that you should pay attention to these factors when you participate in sports.

For example, if someone has had severe spondyloarthritis for a long time and has developed permanent stiffness, they may need to select low impact sports or activities that do not require frequent or extreme bending or twisting. Swimming or exercising in water and bicycling may be good choices, while sports like rugby or soccer may increase the risk of injury. Likewise, sports with high risk of falls, such as extreme downhill skiing or horseback riding, may not be the best choice for people with joint fusion and/or weaker bones.

Other Types of Exercise/Physical Activity

Everyday Tasks

Continuing normal activities of daily living, such as work, leisure and traveling is beneficial, as light to moderate activity preserves mobility and does not tend to worsen the disease. Do as many of your everyday activities as you can unless there is particular reason not to do so, such as significant pain during the activity and/or risk for injury. Be active but use your common sense. Remember that your activities of daily living also offer an opportunity for added exercise, such as walking or riding a bicycle instead of driving a few blocks, or taking the stairs rather than the elevator.

Mind/Body Programs

As the name suggests, mind / body practices, such as Yoga and Tai Chi, focus on activities to address mental and physical health. Therefore, these programs can address more than one aspect of fitness at a time. Yoga combines stretching exercises and poses with meditation practice, while Tai Chi uses a series of slow, relaxed sequences of movement coupled with meditation. While the benefits of mind/body programs have not yet been fully researched, these activities show great promise in improving flexibility, posture, stiffness, pain and mental health in people with spondyloarthritis.

Many of the mind/body practices include breathing exercises. Since the ribs join the spine at the back and can be involved in the inflammatory process, people with spondyloarthritis may notice less movement of the rib cage over time. Breathing exercises may help maintain your rib joint mobility by moving the rib cage through its fullest possible motion, and thus help breathing capacity.
On the other hand, for the majority of people with mild or moderate spondyloarthritis, sports that have moderate to low impact and physical stresses can be beneficial with low risk of pain or injury. Besides choosing the right sport, it is also important to pay attention to proper posture and technique to minimize the risk of injury and maximize the benefits of playing sports.

**When to Exercise**

Because consistency is more important than timing when it comes to exercise, you should feel free to choose a convenient time of day to exercise. Many people find it is easier to stay with a program if they have a regular exercise schedule, so we recommend setting aside the same time of day for your program if possible. Often individuals with spondyloarthritis find morning the most difficult time to move due to stiffness. For this reason, and the fact that mornings may be a very busy time of day, many people with spondyloarthritis choose to do their exercises throughout the day, or in the afternoon or evening. For example, you can incorporate neck and arm stretching exercises intermittently during your workday, which may reduce the risk of repetitive stress injury at work and will reduce the number of exercises you need to do in the evening. Exercising in the afternoon and evening still improves your health, but some people report poorer sleep if they exercise vigorously immediately prior to going to bed. As such, we recommend light to moderate intensity exercise that ends at least 30-60 minutes before going to sleep.

**Adjusting Exercise Based on How You Feel**

When your disease is more active, you may feel more pain, stiffness, and/or fatigue. During these periods, you should continue your range of motion exercises and light to moderate intensity aerobic exercise if possible. It is acceptable to reduce your strengthening and balance exercises and decrease your sports activities if they worsen your symptoms. As your disease becomes less active and you feel less pain, stiffness, and/or fatigue, you can gradually return to your previous exercises and activities. In general, if pain, stiffness, and/or fatigue lasts for more than one hour after exercise or activity, then you may need to alter that exercise or activity.
If you are starting a new exercise or sport activity, or are returning to physical activity after a long break, be sure to progress your program gradually. Since consistency is the key to success, regulate your activity so that you can be as active as possible without lasting or severe symptoms. You can speak to your physician and physical therapist if you have any questions about adjusting your program.

Examples of Exercise

1. Kneel on all fours. Keeping your elbows straight throughout, tuck your head between your arms and arch your back as high as possible.

2. Lift your head and hollow your back as much as possible.

Keeping your head in line with your spine, raise your right arm forward as you raise your left leg backward to be level with the ground. Hold for 5 seconds. Return to all fours and change to raising your left arm and right leg.

1. Stretch up as tall as possible without lifting your heels. Hold this position. Raise your right arm forwards and upwards while keeping your elbow straight, your upper arm close to your ear and your thumb towards the wall. Lower and repeat with opposite arm.

1. Lift your arms in front, towards the ceiling, with fingers linked.

2. Take your arms to the right as far as possible while taking your knees to the left as far as possible. Repeat to the opposite side.
Summary

The management of spondyloarthritis includes two major components: medication to control inflammation and therefore pain and injury, and exercise/physical activity to maximize motion, conditioning, strength, balance, and function.

In spondyloarthritis, regular exercise is necessary. Consistently performing a program that addresses flexibility, aerobic conditioning, strength and balance for 20 minutes a day has been shown to significantly improve pain, stiffness, fatigue, function, and mood.

By working with your physician and physical therapist, you can set realistic goals for yourself, choose exercises/physical activities that are safe and enjoyable, and stay with the program that optimizes your health.

Remember that exercise time is your time to take care of yourself.

The Spondylitis Association of America™ acknowledges with great appreciation the following individuals for authoring this brochure:

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How do I become a member?

It’s easy. Call toll free 800.777.8189 to speak with our friendly staff or join online at www.spondylitis.org

The Spondylitis Association of America was the first, and remains the largest, resource in the U.S. for people affected by spondyloarthritis. For more than 35 years, SAA has dedicated all of its resources to funding medical research, education, advocacy, and supportive programs and services that directly benefit the spondylitis community.

By joining SAA you gain access to tools that will improve your own quality of life while also making a difference for the 2.7 million affected people throughout the nation. Join today and receive:

- **“Spondylitis Plus,”** our information-packed, advertising-free quarterly news magazine
- SAA’s Patient-to-Patient Recommended Rheumatologist Directory
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- A complimentary copy of our guidebook, **“Your Guide to Living with Ankylosing Spondylitis”**
- Discounts on SAA educational and awareness products, such as books, DVDs, and exclusive, limited edition SAA logo items
- The satisfaction of knowing that you are part of an extraordinary community of patients, friends, family, and healthcare professionals dedicated to finding the cure!

There are over 100 types of arthritis. At SAA, we focus on one – yours. So that no one has to face spondylitis alone.