In recent years, experts in patient care in spondyloarthritis have recognized that a hands on, multi-use approach that puts the patient at the center of their own treatment, involving them closely in the decision making process, can lead to the best outcomes. One of the reasons for this may be that it can lead to greater patient satisfaction on a psychological level. One might argue that individuals who are dealing with a chronic progressive illness have already experienced numerous losses pre and post diagnosis, and thus being in charge just feels better.

As such, a patient centered approach - including pharmacological and non-pharmacological modalities and interventions – is recommended as the cornerstone of treatment in those with spondyloarthritis. The aims of this approach, as concluded by the experts, include pain reduction, and an effort to improve muscle strength, endurance, flexibility, mobility, balance, and fitness, as well as maintaining / increasing participation in a healthy social life to prevent feelings of aloneness. Preventing postural abnormalities and joint contractures are also important goals.

In this article, we are seeking to present evidence, based on rigorous study, to describe various elements of a multi-disciplinary non-medicinal intervention in axial spondyloarthritis.

**Physical Therapy**

Often includes physical modalities such as exercise, heat, cold, electrotherapy, and manual techniques. The goal of physical therapy is to maintain and/or improve an individual’s comfort, independence, social integration, and quality of life.

Though all physical therapists are trained health professionals, some have additional expertise in musculoskeletal and rheumatologic disease support and would be the most qualified to treat individuals with spondyloarthritis.

It is important to note that not all patients are good candidates for physical therapy management. A physical therapist is trained to measure and evaluate this, and construct a personalized treatment protocol to suit the patient’s needs and abilities.

**Exercise**

Despite the medical advances during the past twenty years, exercise remains a critical element of a successful management strategy in all stages of the disease. Throughout the literature, exercise remains the most studied physical modality in the management of ankylosing spondylitis and axial spondyloarthritis. Some physicians go as far as to say that exercise is the universal treatment in these conditions. A well-respected group (Cochrane) investigated the effect of exercise for ankylosing spondylitis in 2008. The review reported that individual home based exercise programs are better than no intervention and exert a positive effect on spinal mobility and physical function. They also confirmed that group-supervised physical therapy was superior, resulting in better outcomes when compared to home exercise. Still, in examining the body of research on exercise and spondyloarthritis, it becomes apparent that various difficulties found in many exercise studies prevent firm conclusions in their findings. *(Please see Box 19.1 for more on this.)*

**Aquatic-based Therapies**

In comparing aquatic therapy to conventional exercise therapy across the board, aquatic therapy showed greater improvement in all measures, especially in pain scores and quality of life. However, it has been suggested, but not substantiated, that aquatic therapy combined with conventional exercise seems to increase anti-inflammatory hormones in the body; further study is needed to either confirm or not.

**Electro-physical Agents and Thermotherapies**

Though these modalities have been used rather successfully in other rheumatic diseases, up until recently there had been little evidence to support their use in spondyloarthritis. That may
be changing however, as several recent studies investigating TENS use in ankylosing spondylitis specifically have shown promise. Improvements in pain, stiffness, and fatigue, which are all significant factors in spondyloarthritis, have been reported.

A double-blinded placebo controlled trial was unable to demonstrate useful outcomes in magnetic field therapy when applied to the bilateral joints in AS. There was also no demonstrated usefulness in pain, fatigue, morning stiffness, functional ability, nor disease activity. One small study did show promising preliminary results in whole-body hyperthermia on cytokine levels in the blood, showing a TNFa level (inflammatory marker) reduction of 50% as compared to baseline levels after a 24-hour initiation. A different study however, using infrared sauna to apply whole-body hyperthermia in AS and RA patients, failed to show significant improvements in pain, stiffness, or fatigue.

*Editor’s Note: TENS is short for “Transcutaneous Electrical Nerve Stimulation” which is a machine that delivers a low-voltage electrical current to designated areas of the body, stimulating the nerves in the area in an effort to reduce pain.

Magnetic Field Therapy involves the use of different magnets in an effort to balance and re-align a person’s magnetic field. This is believed by practitioners to treat certain conditions, including pain from arthritis, and increase overall health. The thought behind magnetic field therapy is that certain problems happen because your magnetic fields are out of balance. If you put a magnetic field near your body, it’s believed things will go back to normal.

Whole-Body Hyperthermia is a treatment in which the body’s core temperature is elevated (up to 107 degrees Fahrenheit in controlled environments) to effect certain changes within cells. It is most commonly used as a complementary cancer treatment.

Patient Self-management and Education
It has been well established among experts that the treatment of spondyloarthritis benefits enormously from self-education with regard to disability, patient global assessments, psychological status, and depression. (Please see Table 19.3 for more on this.) However, current reporting in this area suggests that only 40% of patients in axial spondyloarthritis are being referred for education, a number that shows much room for improvement.

Complementary and Alternative Medicine (CAM)
CAM, as supported by funding for studies at NIH, is considered an approach to healthcare and disease management that falls outside of conventional medicine.

The term “complementary” usually refers to therapies beyond standard treatments that are used in combination with mainstream medical approaches. The term “alternative” refers to therapies outside of the conventional that are used in place of mainstream medicine.

Currently, there is little evidence to support CAM use in axial spondyloarthritis. That said, in terms of nutritional and dietary approaches it is thought that a full 95% of patients have used this sort of approach at some time. Often complementary approaches,
such as massage therapy, acupuncture, or naturopathy, are used to support traditional medicines. Though evidence in support is not available, many individuals find great comfort in various alternative approaches to symptom relief. More study is needed.

### Massage Therapy

There are various forms of massage therapy that, according to many self-reported claims, can aid in relaxation, decrease stress and muscle tension, reduce chronic pain, and improve overall wellbeing.

### Acupuncture

Mainstream available information regarding acupuncture has grown rapidly since the mid nineties. In tandem, the scientific evidence supporting its use has steadily expanded. Blinded studies have demonstrated that acupuncture can support its claims of biophysical impact with the release of endorphins – feel good hormones – and that it can provide immediate short term pain relief, as well as improve function. In spite of this, robust evidence to support its use and positive benefits in axial spondyloarthritis is lacking. It is suggested that further exploration and well designed clinical trials are warranted.

### Chiropractic Treatment

Chiropractic is a term used to describe many different types of treatment modalities. These include but are not restricted to a combination of manual therapies, high-velocity spinal manipulation, passive modalities, exercise programs, touch therapy, no touch therapy, and pain education.

The Treatment Guidelines in Axial Spondyloarthritis published in 2015 by the American College of Rheumatology, Spondylitis Association of America, and Spartan strongly recommends against spinal manipulation with high-velocity thrusts in AS patients who have spinal fusion or spinal osteoporosis.\(^2\)

Spinal manipulation in any patient with established axial spondyloarthritis should be avoided due to risk of undiagnosed osteoporosis and the unknown effects of joint manipulation in actively inflamed joints. Extreme care should be taken prior to undertaking chiropractic treatment. Risks in those with axial spondyloarthritis include spinal fractures, spinal cord injury, and even paraplegia.

### Natural Health Supplements and Products

Please see page 10 of this issue for an article discussing supplement use, and their potential interactions with conventional medications.

### Conclusion

Evidence-based literature has demonstrated that exercise and education remain the foundations of non-pharmacologic treatment in spondyloarthritis. Conventional exercise consists of flexibility, stretching, and strengthening with adjunct therapies including aquatic exercise. It has been postulated that a combination of biological treatments and exercise therapies provide enhanced outcomes with regard to symptom relief, physical function, activities of daily living, mobility, and quality of life indices.

Further well-designed studies are needed to measure outcomes and the potential usefulness of incorporating other non-pharmacological approaches in a successful management strategy of spondyloarthritis.

### References:
